

In This Issue—*Some Problems of the Retail Salesman*

MOTOR AGE

Vol. LI
Number 15

PUBLISHED WEEKLY AT 5 SOUTH WABASH AVENUE
CHICAGO, APRIL 14, 1927

Thirty-five Cents a Copy
Three Dollars a Year

A New Sensation for Every Dealer



OUT from the curb—with a flip of the finger—it's so easy steering.

Five to twenty-five miles an hour on the first get-away—that's acceleration.

Fifty miles an hour over a decayed pavement full of chuck holes—that's low center of gravity, balance and Houdailles—that's comfort.

Seventy-three miles an hour on the open road without shimmy or vibration—that's pleasant speed and safety.

Around a turn at fifty miles an hour—no side sway—just a solid safe sensation of sticking to the road.

Turn around coming down a steep hill and go back again without shifting out of high—rapidly gaining speed. That takes power.

Park at the curb for five minutes and fifty people stop to look at the car. That's style and appearance.

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President
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Cleveland

P. S. Dealers are having these experiences at the factory every day with the New Little Custom Jordan. You are invited.



"Am well satisfied with my contract.
Haven't been interested in any other
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Mr. Atkins finds that 30% of his annual sales are to former Hupmobile owners—and Atkins Motor Company last year did a gross

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Since 1922 when this dealer first secured the Hupmobile franchise, his sales and service headquarters have expanded from 2,500 square feet of space to over 11,000 square feet. In that period more than 400 Hupmobiles have been placed in Paterson and surrounding territory.

Details of the Hupmobile contract known as the most liberal in the industry will be sent to interested dealers upon request. Dealers or other business men interested in the progress of Hupmobile dealers in their own vicinity may secure information similar to above by writing the factory.

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DETROIT, MICHIGAN

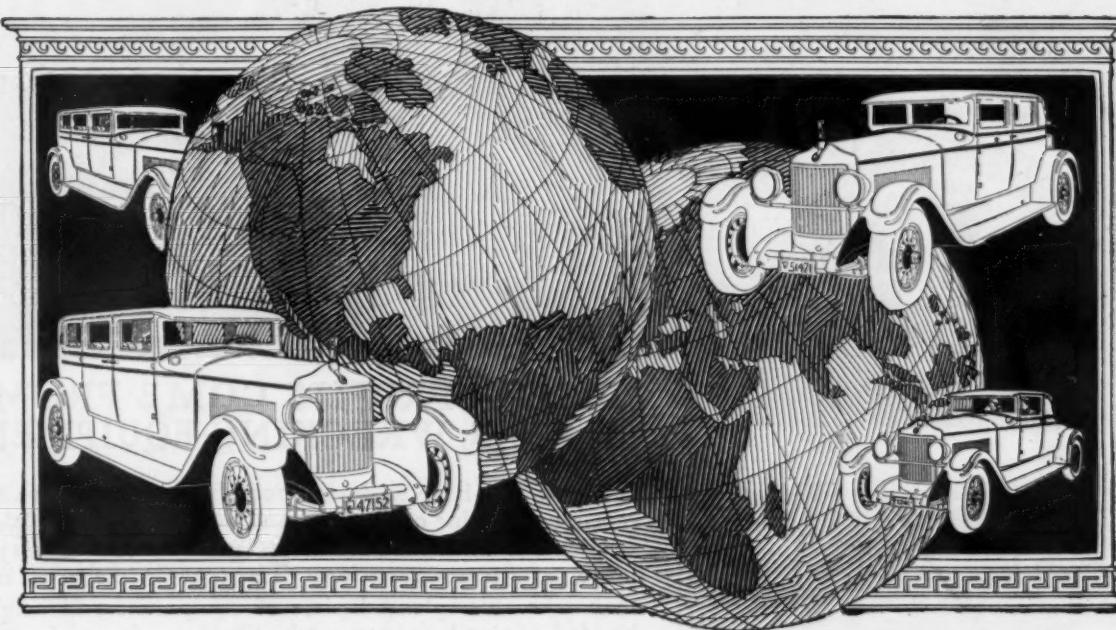
HUPMOBILE

SIXES and EIGHTS



MOON'S 21st ANNIVERSARY

"Favorably Known the World Over"



21 Years of Fair Dealing Meet You More Than Half-Way

| | |
|--|----------------|
| Number of years in business | 21 |
| Number of foreign countries represented in | 47 |
| Number of distributors in United States | 82 |
| Number of dealers in United States | 598 |
| Number of manufacturers started since Moon began . . . | 607 |
| Number of manufacturers still building cars | 36 |
| Total value of Moon products in use . . . \$122,429,650.00 | |
| Total cash dividends paid | \$2,500,719.44 |
| Increase in business last 7 years | 612% |

This record has been possible because of 21 years of success and square dealing with a product ahead of its day in style, engineering and price.

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You don't have to draw upon the imagination to appreciate the value of a Holmes Wrecker No. 485. With your name and phone number prominently displayed it always attracts attention. The crowds like to see one man take this splendid piece of equipment and single-handed lift and right a car bodily from its misfortune—they are impressed by the businesslike manner in which it tows the wreck in and naturally they think of you when they get into trouble.

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ORDER FROM YOUR JOBBER OR WRITE FOR FULL INFORMATION

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PRICE, \$38.00

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It is a combination arbor and heavy duty forcing press with two speeds—high speed for work up to 4,000 lbs. and low speed for heavy duty work up to 66,000 lbs. The bolster is raised or lowered with work in place by turning crank instead of old hand method, and all levers are placed convenient for right hand operation. The base is fitted with two small wheels so it can be easily moved about the shop.

Price With Standard Equipment \$110.00



MOTOR AGE

Reg. U. S. Pat. Office

Vol. II.

No. 15

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C. A. MUSSelman, President and General Manager
J. S. HILDRETH, Vice-Pres. and Director of Sales

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Secretary and Assistant Treas. TreasurerCable Address: Motage, Chicago
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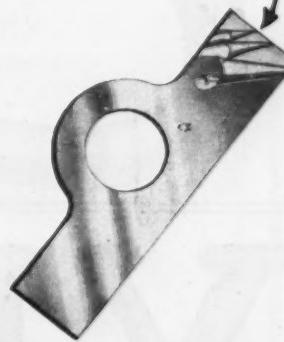
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A new fan belt for every car this time of the year! It seems to be a new idea for the service man and accessory dealer, but now they've realized its soundness, it is going over big.

It's a cinch they all need them, after months of racing to warm up the motors, of pumping alcohol slush in zero weather, after the added strain of winter fronts, and the owner's general neglect of lubrication during the season that's too cold for tinkering.

Yessir, a new fan belt is the simplest spring tonic of all. And when it's a Vitalic, it's O. K. with dealer and owner both.

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FACTS and FIGURES

*showing which way the wind is blowing
at home and abroad*

STUDEBAKER registrations in Cook County (Chicago) for March show a 51% increase over last March.

Studebaker registrations in Wayne County (Detroit) show an increase of 47% over March of last year.

March exports of Studebakers and Erskines were 3,738 as against the previous high month, (February, 1925) which totalled 1,798. More than 100% increase.

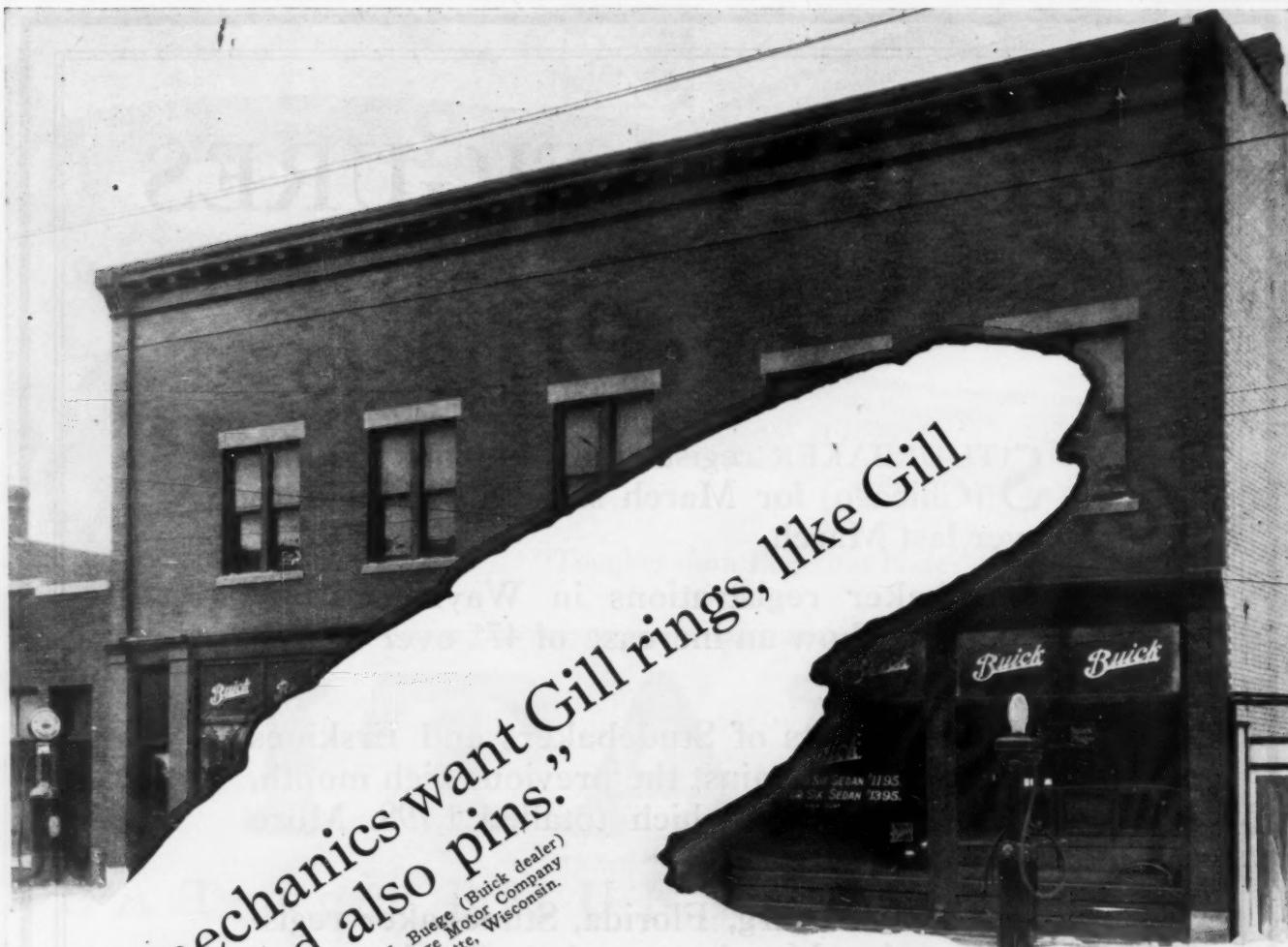
In St. Petersburg, Florida, Studebaker registrations for March exceeded all other cars, except two low-priced, 4-cylinder jobs.

Studebaker sales in Long Beach, California in March exceeded March a year ago by 92%.

The Welch Motor Company of Utica, N. Y. wires: *Delivery records for month of March show Studebaker has outsold every other car in Utica. We expect double in April.*

♪ [Write or wire for information on
the Studebaker-Erskine lines in
your territory. Address Dept. 51,
The Studebaker Corporation of
America, South Bend, Indiana.] ♪

STUDEBAKER
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"Our mechanics want Gill rings, like Gill
pistons and also pins."

R. H. Buege (Buick dealer)
Buege Motor Company
Marinette, Wisconsin.

All Mechanics Who Once Use Them
Want and Like

Gill

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The work you do with Gill Products produces satisfactory results.

That is why mechanics like them—and why shops that specialize in Gill Products for reconditioning do such volumes of work, and profit so greatly from it.

GILL MANUFACTURING CO.
8300 South Chicago Avenue
CHICAGO ILLINOIS



FREE GILLOMETER
gives the flat rate charge on six popular engine repair jobs covering 76 makes and models of cars. Tells piston ring size required. Wipes out estimating losses. Sent free—regardless of what rings you use. Write for yours today.

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They want cars that stay like new. You know that everything depends upon design and material—you help to win a favorable verdict on these points by mentioning Timken Tapered Roller Bearings.

Transmissions, differentials, pinion or worm drives, rear wheels, front wheels, steering pivots and fans are best wear-proofed by means of Timken Bearings. Their taper design and *POSITIVELY ALIGNED ROLLS* are equally effective against the wear of shock, speed, thrust, torque and friction.

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CANTON, OHIO

TIMKEN *Tapered Roller* BEARINGS

A STEEL WORKER
POUNDS RECORDING
MARKS INTO BLOOMS
OF GLOWING STEEL
AND A GREAT CRANE
CONVEYS THEM TO THE
TIMKEN COOLING PITS



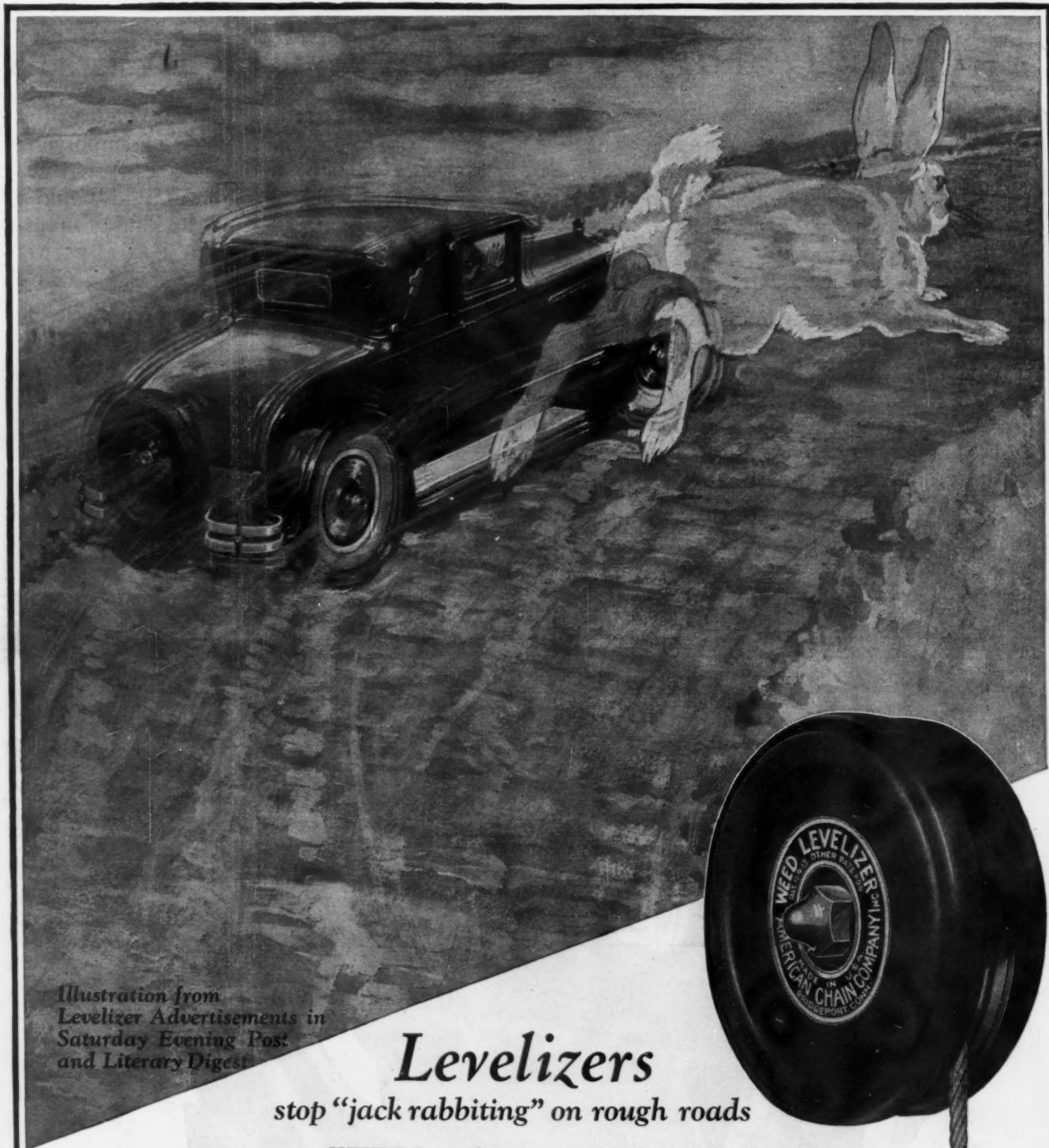


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Levelizer Advertisements in
Saturday Evening Post
and Literary Digest

Made by the makers
of WEED CHAINS
and WEED BUMPERS

AMERICAN CHAIN
COMPANY, Inc.
BRIDGEPORT, CONNECTICUT

In Canada:
Dominion Chain Company,
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Niagara Falls, Ont.



A PRODUCT OF THE
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Levelizers stop "jack rabiting" on rough roads

WEED Levelizers keep cars from bounding on washboardy roads—resulting in greater comfort and better steering control.

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Levelizers are a profitable dealer item.
Write for full particulars.

Simple in construction.
Easy to install with ordinary wrenches



WEED Levelizers

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Volume LI MOTOR AGE Number 15

CHICAGO, APRIL 14, 1927

Who Checks *The Job?*

*A Thoroughly Competent Service Man Should Inspect Every Car
After It Has Been Serviced to See That the
Work Has Been Done Right*

FREQUENTLY one hears car owners say: "If I only had the time and tools I would do all the repairing on my car, for you never get anything done right in a service station."

The latter part of the statement is an exaggeration, but unfortunately there is enough truth in it to keep it actively in circulation to the considerable injustice of many conscientious and capable garages and service shops.

Probably the greatest need of the automobile service industry today is a system of inspection of the completed job that will not permit defective or slighted work to go out.

And it must be admitted that with the growth of flat rate and job rate payment to mechanics there is a tendency for some workers to rush jobs and even omit entirely some of the work on the order for which the customer pays nevertheless.

The slighted work may not be easily noticeable, as for instance the changing of oil or grease, or the tightening of bolts, and may not cause the customer to bring the job back.

But it is wrong to permit unsatisfactory or dishonest work to go out of the shop, and the best service shops will not knowingly permit it. Such work is sure to be found out sooner or later and the reputation of the shop will be seriously damaged.

The trouble in most cases comes from lack of inspection of the completed job. In every shop when a car in for service has been pronounced ready for the customer, there should be someone, the proprietor, a special inspector or foreman, or the mechanic himself, who will take the work order and one by one check the operations to see that everything called for by the order has been done and done properly.

And while he is at it this inspector should clean the grime off of the steering wheel and wipe off dirt and grease that may have been left elsewhere on the car. The car certainly should be returned to the owner as clean as when it came in and it will not hurt to have it a bit cleaner. Of course the ideal thing to do would be to make the work order include washing and polishing, and then see that car goes back to the owner spic and span.

A little time and effort put into the careful inspection of the finished job will much more than pay for itself.

Some Problems of

A Salesmanager Tells How the Selling Organization May Be Encouraged, How to Handle the Used Car Trade and How to Find Prospects Who Do Not Own Cars

By CLARENCE SCHUKEI

IT is a well-known fact that in the past few years the retail field for automobile salesmen has been invaded by a lot of good-for-nothing sort of fellows, who thought they could sell cars and make a nice piece of money without much hard work. At least, they figured they would have one of the dealer's new cars to ride around in. Just this sort of thing has worked a hardship on our real, honest-to-goodness salesmen. Ask any dealer. He has had several in his organization in the past few years.

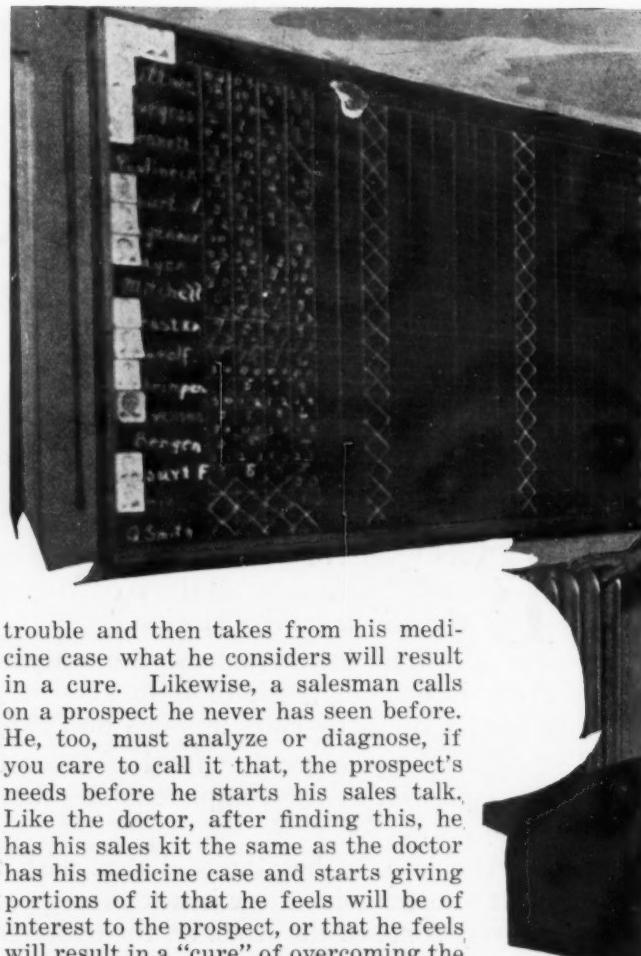
One by one they have vanished from the picture because as time passed competition grew keen and because the odd sale this type of salesman would usually make is made by his competitor. On the other hand, competition has forced the dealer to employ salesmen who could produce at all times of the year, and the result was all dealers throughout the country analyzed their sales organization and kept only those who were consistent producers from month to month. Very nearly any type of salesman can sell a few cars in the spring of the year, but it takes a real, convincing talker to sell them during the cold winter months.

How do car salesmen of today work to get results? First, they must understand the advantages of their car and be able to present them so the prospective purchaser will have the mental vision of the things they are trying to outline and not merely state that the car will pull certain hills on high or throttle down to four miles an hour, as most of the poorer salesmen do. In a good many cases the customer knows what the salesman is going to say before he starts. The automobile salesman who remains in the industry is the man who makes a study of his car as well as of his prospects.

Prospects Have Varied Interests

Salesmanship is simple, as most men have analyzed it. It is the art of convincing, and different things appeal to different prospects. This very reason is why it is necessary for a salesman to carry a portfolio containing information on his car in all forms. Some people will be interested in the technical parts, others on facts or statistics and still others on refinements and improvements. A man who proves every statement he makes and has it illustrated by pictures and cuts can always hold a prospect's interest and gain confidence.

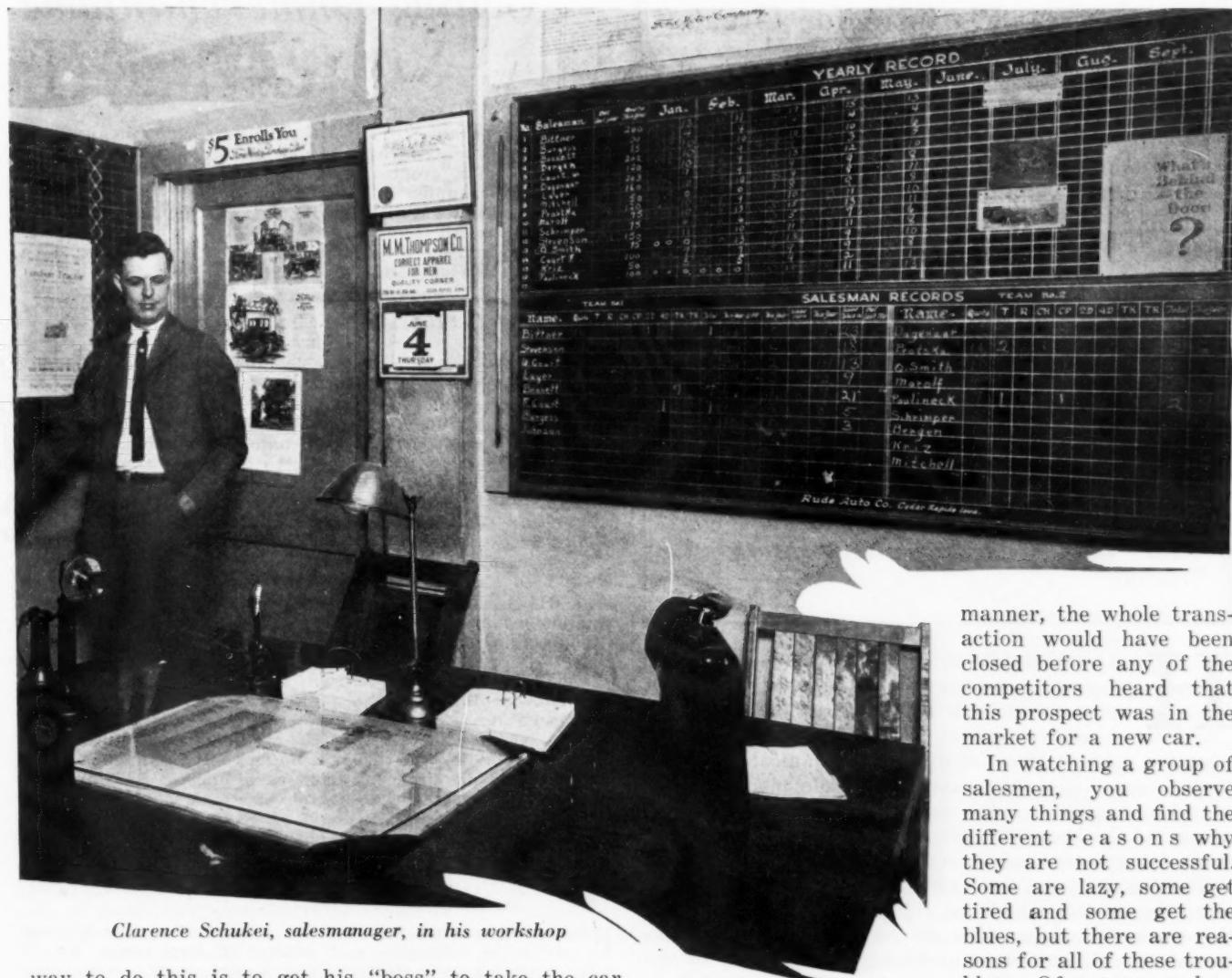
A salesman is like a doctor in a good many ways. A doctor calls on a sick patient he has never seen before, and the first thing he does is diagnose the



trouble and then takes from his medicine case what he considers will result in a cure. Likewise, a salesman calls on a prospect he never has seen before. He, too, must analyze or diagnose, if you care to call it that, the prospect's needs before he starts his sales talk. Like the doctor, after finding this, he has his sales kit the same as the doctor has his medicine case and starts giving portions of it that he feels will be of interest to the prospect, or that he feels will result in a "cure" of overcoming the objections brought up. At least, he is seated beside the prospect and has an even chance. A sale cannot be made on the first interview every time any more than a doctor can cure a sick person in one call. It takes time and head-work in every case.

The used car has been the downfall of some of our best salesmen and has been responsible for other salesmen on competitive lines getting in on the deals they were working. In a good many cases, all that is discussed between the salesman and the prospect is the price to be allowed on the old car, and the more they talk about it the more certain the customer is that he should get his price. Now, just how do these competitive salesmen "get by" as well as they do? The answer is very simple. For example, John White is the owner of an old car. His neighbor has a new one and he wants one, but does not have any particular car in mind that he intends to buy. Every automobile salesman that approaches him will get an interview because he will be anxious to find out just what the old car will bring. And, after several have talked to him and made their offers but failed to give him a real reason why he should purchase their car, he makes up his mind to buy from the one that makes the best offer. From this point on the dealer is the individual the salesman puts his best efforts on. It is the salesman's ambition to get the new car sale away from one of his competitors, and he feels the only

The Retail Salesman



Clarence Schukei, salesmanager, in his workshop

way to do this is to get his "boss" to take the car in for more than his competitor will offer. The outcome of a sale of this kind is that the poor business man selling a make of car the customer does not want, makes the best offer and the customer buys it without realizing what he has entered into.

Talk the New Car, Not Used One

How easy this would have been for an honest-to-goodness salesman who would have called on the prospect in the presence of his wife and family and unfolded the information he had on his car, at the same time proving every statement he made by illustrating with pictures and cuts on construction and beauty. He would have created enough desire that, immediately after a demonstration with Mr. White at the wheel, he could have closed the deal. Instead of the used car allowance price being the thing uppermost in the mind of Mr. White, he would have a mental picture of the things outlined by the salesman and, being at the wheel, would immediately get the desire to own the car. Once the customer has a desire to buy and own the car the salesman will have no trouble buying the used car at his own price. If the sale had been handled in this

manner, the whole transaction would have been closed before any of the competitors heard that this prospect was in the market for a new car.

In watching a group of salesmen, you observe many things and find the different reasons why they are not successful. Some are lazy, some get tired and some get the blues, but there are reasons for all of these troubles. Of course, a lazy

man has but one thing to do to succeed. The tired salesman must conserve his time to a better advantage and use the telephone where he formerly made long trips to find no one at home. But the man who gets the blues and gets discouraged is the problem. There are hundreds of causes for this condition. If the salesman who gets discouraged by getting turned down call after call, would only change his route and call on his owners the next hour or two they would pep him up on owner satisfaction so he could go back to his prospects fighting and confident that his mission is worthy of their time. An automobile salesman either makes a lot of money or a bare living and if it is the latter, his troubles multiply. To sell, his mind must be free from any financial worry and, if his finances are low, his wife is forever and forever encouraging him to change his job.

Let Salesmen's Wives Help

Recently the writer, who has a sales force of 15 salesmen advised them that at the next weekly sales meeting they should have their wives present. Of course, this created a great deal of curiosity and the

(Continued on page 19)

What Dealers Say About

MOTOR AGE Platform for Greater Dealer Profits

- ¶ More net profit per dollar of sales.
- ¶ Elimination of used car losses.
- ¶ Make the used car a profit producer.
- ¶ Eliminate unmerchantable cars from the trade.
- ¶ Put the maintenance department on a profitable basis.
- ¶ Boost profits by accessory sales.
- ¶ Tires will help swell your profits.
- ¶ A fair flat rate plan for customer and mechanic.
- ¶ Get a profit from parts and supplies.
- ¶ Develop sales possibilities of territory to full extent.
- ¶ Dealer must not be forced to take more cars than his territory will absorb at a profit.

HEREWITH MOTOR AGE publishes letters from men actively engaged in the retail selling of automobiles with reference to the scrapping of used cars that are so disreputable in appearance and so questionable in mechanical condition that economically they cannot be made merchantable.

In last week's issue the subject was broadly discussed as one of the important planks in the MOTOR AGE platform for greater dealer profits.

The letters from successful dealers published here, and other letters which we did not have space to print this week, show how seriously the retail trade is thinking about this important problem. It is worthy of the best thought of the leaders in the industry and it is the hope of the editors of MOTOR AGE that all dealers, individually and through their trade associations, will help to work out plans for relieving the industry of the great burden of buying and trying to sell worn out or obsolete articles for which there is no market. Following are some of the letters:

From J. A. Smith, Jesse A. Smith Auto Co., Milwaukee, Wis.
(Hudson-Essex)

I THINK you are right in starting something at this time regarding the old used cars that still run, but are nevertheless scrap.

The way these cars are now being handled, namely nearly every dealer selling them to junk dealers, is not at all satisfactory, as by this method, many of them are not getting out of use, but are being sold by the junk dealer for service, and eventually get back to the dealer again.

In other words, some dealer that has taken them in first at from fifty to a hundred dollars tried his best to sell them to get out of the hole, and when he failed, he sold them to the junk man for ten to fifteen dollars. The junk man passes this same car along to someone for twenty-five to thirty-five dollars, and eventually the same dealer takes the car in again for fifty to a hundred dollars and so on.

It would seem to me that the only way this evil could be eliminated would be for dealers in the larger towns to organize a company to scrap all cars that have outlived their usefulness. Such a company doing a volume of busi-

Getting Unmerchantable is Big Problem

ness would be able to scrap them more economically than they are now being scrapped, and undoubtedly, every dealer would realize a greater amount than he is realizing now from such scrapping of cars.

In any event, whether he did or not, they would be put out of use for all time.

I should be very pleased to get the views of other large dealers on this subject.

From Chas. J. Belsky, Belsky Motor Co., Inc., Dubuque, Ia.
(Buick)

CHEAP used cars sold to consumers are a menace to a dealer's good will. Many dealers are beginning to realize this fact. Since \$50, \$75 and \$100 often must be allowed on these unmerchantable cars in order to complete a deal on a new car, many automobile establishments are tempted to resell them in order to get their money out of them. This involves additional expense for storage, insurance and handling, and accounts to a considerable extent for the loss occasioned in the used car departments.

Two plans that may help suggest themselves to us:

1. The factory should make an allowance on each car junked (dealer to send concrete evidence that the car is junked) based on dealer's new car sales. This allowance should be in the form of an additional discount of at least 2 per cent from list, to be paid at the close of the fiscal year.

2. Dealers should organize, in towns of sufficient size to make it profitable, rent a junk yard with an experienced man in charge. This man would junk the old cars, separating the various metals into their respective groups. The metals would be sold through the regular channels and in this way the net proceeds from each junked car would be considerably greater than if the car were sold to a junk dealer. The net proceeds could be divided among the dealers in the group every six months.

From H. J. McDonald, McDonald-Johnson & Co., Ltd., Okmulgee, Okla. (Hupmobile-Reo)

FOR many years I have been a consistent reader of your estimable magazine and admire it very much, for it most certainly is a dealer's and service man's champion. If half the dealers in our great industry could absorb the teaching you set forth we would all have been healthier physically and financially. Keep it up.

It is not often I break into song but after reading the last issue in which you again attack the Used Car phase of our business (note I do not say problem) I wondered if I might not offer a suggestion. It may be that it is neither original nor early in its scope but I had not seen any such along the line I had in mind so if it is not feasible your waste basket is handy. The stamp won't be missed even if I am Scotch.

My idea was for some of your editors to set out the number of cars taken off the market by junking, wrecks and other sources of deletion in 1926. Ascertain the number of dealers in this country which is, I believe about 50,000. Arrive at an average and then point out that if we all maintain this average or exceed it for this year we will soon have such a large member of these unfit cars out of use that we will relieve the glut that is now upon us. My main reason in writing you was to get a medium that would be competent to act as a leader in this move and also to have you inject a sort of spirit of contest in some way. You can hardly realize the good this would do especially if each of us got to competing with each other in the matter of seeing how many more cars we could junk as well as sell.

I do not know whether or not this is entirely plain, but you can no doubt catch the thought. Further, please do not in your own mind get the impression that I am one who is in a serious condition from used cars, for I welcome them, the only way I will take them, that is for less than

Scrappling Old Cars

Vehicles Out of the Trade Before the Industry

I can sell them. We bought thirty-eight at one time from a fellow dealer and made enough to pay our overhead for several months on this deal alone. But never the less I have junked a score in a small town this size already this year and have hopes of reaching 50 before December 31.

From J. B. Alsop, Alsop Motor Co., Inc., Richmond, Va.
(Chrysler)

YOUR subject, "Shall We Scrap the Older Used Cars?" is a very interesting one from the standpoint of the automobile man.

The cars, such as you describe, with reference to being disreputable in appearance and mechanical condition, are frequently presented to us for appraisal, and in consequence of their dilapidated condition, we are forced to refuse to make any offer, which of course is not understood by the prospect, who cannot imagine his old friend not having any value whatever.

We find that the idea on the part of the public that a used car should bring a higher value on a trade than it would on a cash basis is still prevalent. Of course, we all know that the public was told this by the automobile men, who are responsible for a great many other evils along this line. We have always contended that the solution of the used car problem will have to be handled by the respective factories in some manner, as the dealers as a rank and file have displayed their inability to handle the situation with any degree of success.

It is only necessary to refer to a few figures showing the losses sustained by the dealers in handling used cars, to verify this statement.

If the manufacturers can work out a scheme to junk these older models, we believe it will be a very wise thing to do, provided they eliminate them entirely.

It is almost impossible to sell a car to the junk men, as they are already loaded up with unsalable material.

It seems that if the typewriter people and the piano people can handle their situation with reference to a trade so successfully, that the automobile industry should be able to work out a proposition beneficial to all. Of course the public would have to pay the price in the end, but this is only natural in view of the public getting every benefit from the solution of the used car problem.

From A. R. Pryor, Pryor Motor Co., Inc., Birmingham, Ala.
(Hudson-Essex)

FOR several years I have been advocating a policy of junking automobiles that are unsafe or unsatisfactory to use.

The junk men here purchase used cars at prices ranging from \$5 to \$25 per car and with very little work they immediately turn around and sell them to buyers who again present them to dealers for trade, in some cases to the same dealer who junked the car originally.

These cars should be so mutilated that it would be impossible to put them back on the streets and in this case the only value they would have would be for the scrap metal.

A great many of the dealers here seem to feel that this would prevent the junk dealers from buying of them and because of this I have suggested that certain of the stronger dealers organize their own junk department and run it on a cooperative basis if necessary. You realize, of course, how difficult any cooperative proposition is to put across, but when a dealer sells a car today as junk for \$7.50 and allows \$75 for it next week in trade for a new automobile there is something wrong. He could much better afford to have given it away with a provision that it stayed off the market than to have sold it.

If the motor publications of the country will get in behind this proposition I firmly believe that by mid-summer this policy will be nationally adopted.

In connection with this I believe the dealers' discounts

St. Louis Automobile Dealers Ass'n

3124 LOCUST STREET

ROBERT E. LEE, MANAGER

JEFFERSON 0352

BULLETIN

Subject:

April 14, 1927.

WHAT'S A USED CAR WORTH? —ELEVEN GUESSES—

The trading of used cars seems to be about as indefinite as to their real value as "which is the best religion". Here is a sample deal which came under the immediate observation of the writer last week.

A Ford roadster purchased new in February 1926 was taken to a number of Ford dealers to trade in on a new Ford truck. Here are the offers made for it. The trade was finally made at \$100.

| | | | |
|-------|------|--------|-------|
| No. 1 | \$80 | No. 6 | \$75 |
| No. 2 | \$40 | No. 7 | \$75 |
| No. 3 | \$45 | No. 8 | \$85 |
| No. 4 | \$60 | No. 9 | \$85 |
| No. 5 | \$70 | No. 10 | \$58 |
| | | No. 11 | \$100 |

Is it any wonder that our buyers know that it will be profitable to them to shop around?

Very truly yours,

R. Lee
Manager.

should be increased so as to set aside a sufficient reserve to enable them to do this without a loss, or perhaps the manufacturer should allow the dealer to add an amount to the price of each car for this purpose.

From P. C. Rude, Rude Auto Co., Cedar Rapids, Ia. (Lincoln-Ford)

WE are very much in sympathy with the Ford Motor Company's used car plan in that every used car which we purchase should be appraised at the price for which it will sell to the public, readily. Then our buyer should inspect the car carefully and determine the expense for reconditioning and deduct from the purchase price the reconditioning estimate and approximately 20 per cent for a handling charge. If this plan was worked out, there would be no used car buying problem and the selling problem would be no more difficult than the selling of any standard new car.

We feel that cars that would not sell readily at \$50 or over should be eliminated from the market, either by junking them or dismantling the cars of your own make and selling the used parts that are marketable and junking the rest.

The man who owns the old car should stand all the depreciation; however, the plan which the Chevrolet factory is offering their dealers for junking used cars is worthy of consideration. By this plan the loss must come out of the new car purchaser, indirectly.

From Harry H. Clendenin, Guilford Motor Car Co., Greensboro, N. C. (Franklin-Nash)

WE certainly believe that all disreputable and very old cars should be eliminated from the market. As to just how this might be worked out, we are unable to say, but it seems that the factory should be willing to pay the dealer a stipulated amount, according to his price class, for each car that is demolished and withdrawn from the trade beyond a certain age limit and it does seem that if this could be accomplished that the entire motor industry would profit thereby.

We understand that the Chevrolet Motor Co. is giving their dealers \$50 for each old motor car which they scrap or junk.

(Continued on page 18)

Service Station Equipped at Pays Good

*Kansas City Man Specializes in
Washing, Greasing, and Battery
and Tire Service, With Cleanli-
ness and Complete Satisfa-
ction to the Customer
as Main Objective*

By B. S. BROWN

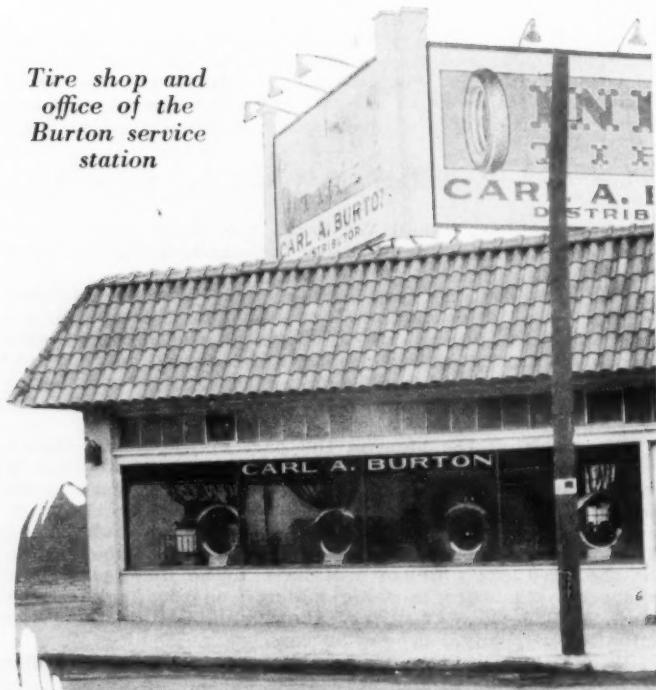
ONE of the most complete servicing stations in Kansas City or the Middle West today has been established just long enough to prove that servicing along modern lines and according to advanced ideas really pays and pays well.

This modern service station was conceived and established by Carl A. Burton at the corner of Westport Ave. and Mill Creek Parkway, Kansas City, Mo. It was Mr. Burton's idea that there are certain services that every motorist needs frequently, and which could be done with a saving of time and expense to the customer, if done all at one time and in one place. These services, such as tire repair, oiling, washing and other simple and necessary services, do not require expert mechanics, but only capable and efficient labor. Thus by offering all the simple car needs at one service station, which is clean and inviting to the eye and easily accessible, Mr. Burton would be offering a greatly needed service to the car owner, and by eliminating the element of specialized mechanical labor, he would make his labor supply more sure and less costly.

Believing he had a salable idea Mr. Burton invested \$52,000 in his plant, thus introducing another new idea into the car servicing business, this being that it pays to put a considerable capital into this as well as any other rapidly growing business with a limitless future. The keynote of his new establishment was to be cleanliness, convenience, fair and equitable charges, speed and courtesy in handling, and the best and latest in mechanical equipment.

The site itself is very advantageous, being on one of the main thoroughfares leading to the better residential section of the city. The entrance on this—the Mill Creek Parkway side—is brightly lighted in the evening and is entered through his filling station, the exit taking the motorist past the electrical, oiling and washing departments which are housed in a clean white building along the east side of the grounds. These grounds cover a total of 16,500 square feet of space, and are divided into the different departments as follows: Tire department, occupying 1530 square feet; washing, 800 square feet; greasing, 400 square feet;

*Tire shop and
office of the
Burton service
station*



batteries, 600 square feet, and the gas and oil station, 2190 square feet. The tire department as seen in the accompanying picture, is a store in which Mr. Burton also has his office. He carries all sizes of tires regularly used, in several brands. The building is entirely surrounded by windows, and presents an attractive store front to the street. The photograph shows the "snow" scene which Mr. Burton used for his Christmas display. In the rear of this building he houses his tire repair department, and in the basement is the heating plant for all four of the buildings; the filling station, oiling and greasing department and his battery charging house.

Mr. Burton was in the boiler business—his own business—for 17 years and has found that the public generally places more confidence in modern machinery than even in skilled labor, and with this in mind he has equipped his shops with the very newest innovations in machinery for washing, oiling and battery charging and repair. This, of course, cuts his labor costs, but the labor he does employ is skilled in manipulation of these modern machines. For example, his spraying machine for washing cars, does the work in the minimum of time and more expertly than the old way of doing it by hand. His battery shop represents a large outlay of money, and can turn out a great deal more work to the day than the old models of this machinery. He can accommodate about six cars in his pits at one time and the parking space in the rear of his tire shop has had as many as 38 cars parked in it at once.

Mr. Burton believes that his modernly equipped shops, the speed and efficiency of the machinery he has so

Cost of \$52,000 Return Fourth Month



Entrance to the Burton service station is through the gasoline station

For the convenience of persons who can wait for some small service to be performed there is a little garden provided with seats and swings and walks. The plot is 35 by 75 feet in size and is landscaped with rose trellises and 17 different kinds of shrubs. In the summer it is a profusion of bright flowers and during the Christmas season boasted a large gayly trimmed Christmas tree electrically lighted.

Mr. Burton especially stresses the point that he gives not only the best service of each kind that the motorist can buy, because he has the aid of every available

carefully selected, all have their psychological effect upon his customers in producing confidence in his service. He has already five big companies with many trucks in operation under contract for complete servicing, including tire replacement, for all their machines, and has more of this kind of business lined up for the near future. He also keeps a strict file on his oil sales and has figured that for the average passenger car, twenty days is the time necessary to run 500 miles, and so he sends out post card notifications to all purchasers of motor oil every twenty days. He also keeps a very strict record of his tire sales and the mileage they give his customers. If, after the approximate life of a tire, the customer does not return to repurchase, Mr. Burton writes him asking what satisfaction and mileage he has had with his tires, and in almost every case the customer is glad to give the information and he gets very satisfactory reports on their tire mileage. Of course with the regular patrons of his place—which almost all of his customers are—Mr. Burton can keep in touch with their needs personally because he sees them often. However, the files and card reminders do much to bring his patrons in often.

machine for it, but he also sells the motorist only the kind of service he wishes. Instead of a somewhat overworked plan of, for example, selling a blowout patch and new inner tube and large labor bill to a man who has only asked for an inner tube patch, Mr. Burton sees to it that the man is given the 50 cent job, which is very probably all that was needed, and certainly was all he expected to pay. This has gone very far to create confidence in his plant. In fact, Mr. Burton has been very strategic in all his planning, as for instance in the placement of his filling station for gas and oil. If the motorist drives into his place through the Westport Ave. entrance past the tire shop, he must leave by way of the filling station, and what could be more natural than to stop and "fill up." While if he needs the gas, the station is most convenient for him.

Although the outlay for this complete "plant" was \$52,000 still other improvements are being planned. His greasing and washing building will be extended and refinished inside. He found that his plant paid him a good return on his investment the fourth month he was in business and has constantly grown.

GIVING THE DEALERS THE WHOLE STORY



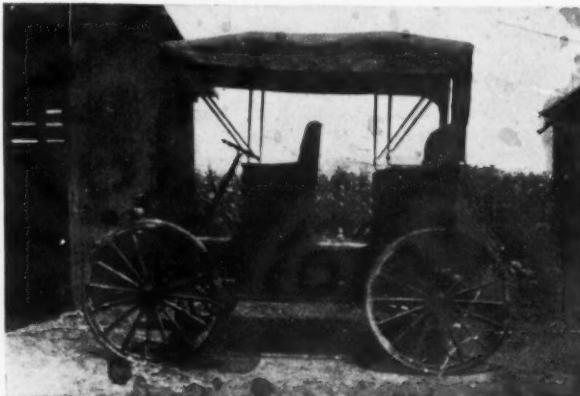
THIS photograph shows how the Paige Wisconsin Co., distributor of Paige cars, Milwaukee, told the Paige story to dealers and prospective dealers during the recent automobile show in Milwaukee. This exhibit was maintained at one of the hotels. By means of this display it was possible to explain the Paige policy on parts sales, service, advertising and new car sales. The undertaking proved highly successful, according to Jack E. Williams, secretary of the company.

Bureau of Roads Gives Out Results of Exhaustive Truck Tire Tests

Increasing the thickness or profile height of motor truck tires has a very marked effect in reducing road impact in both single and dual mountings, the United States Bureau of Roads has learned after a series of exhaustive tests. Other conclusions reached as a result of the test are (1) thickness and narrowness of tread rubber are desirable in reducing road impact reaction; (2) that as static load increases, road impact reaction increases; (3) as static load increases, the ratio of road impact reaction to static load decreases; (4) that appreciable variation of cross-sectional rubber, or breaks in its continuity, cause heavy repeated impacts

to be delivered to the road; (5) that dual mounted tires should always be mounted with the tread designs staggered; (6) that maximum impact forces obtained with motor truck tires in service can be measured with an accuracy sufficient to determine results and (7) that in the tire equipments tested, all of which were standard, dual mounting caused heavier impact forces than the corresponding single mounting of the same total load-carrying capacity. This last conclusion was determined on a pneumatic-tired 2-ton truck and a solid-tired 5-ton truck.

Wants Information on Old Car



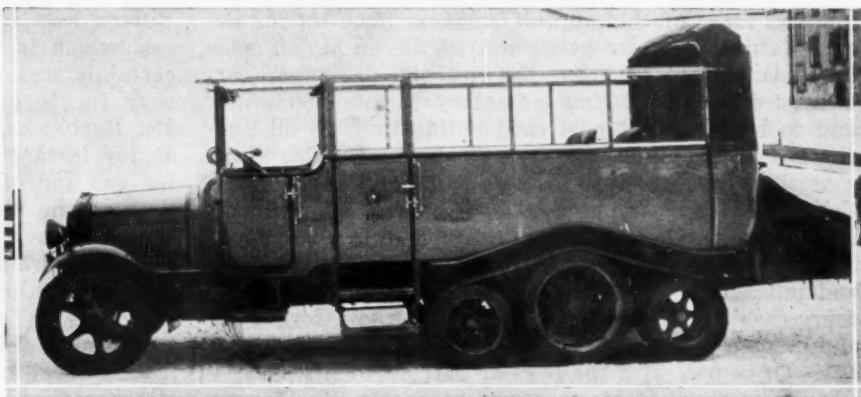
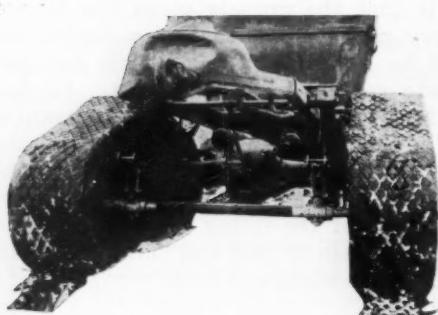
To the Editor of MOTOR AGE:

Will you please send me any information that you can concerning the age, manufacturers, etc., of the automobile shown in this photograph. The lamps, fenders and running board have been removed. A plate on the coil box on car reads: The Black No. B-5413, Black Mfg. Co., Chicago, Ill.

HAROLD SULIER, Temperance, Mich.

MOTOR AGE has a record of a Black automobile having been made in 1907 by the Black Mfg. Co., Chicago, Ill. Probably some of our readers can tell Mr. Sulier more about the old car.—The Editor.

A Caterpillar Bus for Swiss Mountain Roads



A new type of bus for winter use on the Alpine roads of Switzerland has been introduced by the Swiss postal authorities. The rear wheels of this bus are equipped with a caterpillar drive. The photographs show a side view of the bus and a detailed view of the rear drive construction. Photos from the Official Information Bureau of Switzerland

ATLANTA HAS \$1,000,000 GARAGE

CONSTRUCTED at a cost of approximately \$1,000,000, the immense plant of the Ivy Street Garage Co., of Atlanta, said to be one of the largest independent garages in the world, incorporates a great many new and unusual features that will be found in very few plants of this nature.

Used as a garage plant for the repairing and servicing of cars, and also as an automobile hotel for storage with a capacity of 600 cars, perhaps one of the primary features of this plant is the patented ramps that have been used, and the efficient manner in which cars may be driven from the ground floor of the building to the topmost story—the building being six stories in height—without a change of gears. This has been made possible by the staggered construction of the building, the floors in the first half of the structure being raised about six feet above the rear portion, permitting the ramps to raise the vehicles that are ascending a half story at a time. The staggered ramps have proven very efficient since they have been in use, having many advantages over the circular type ramps which are used in several garage or storage plants of this kind.

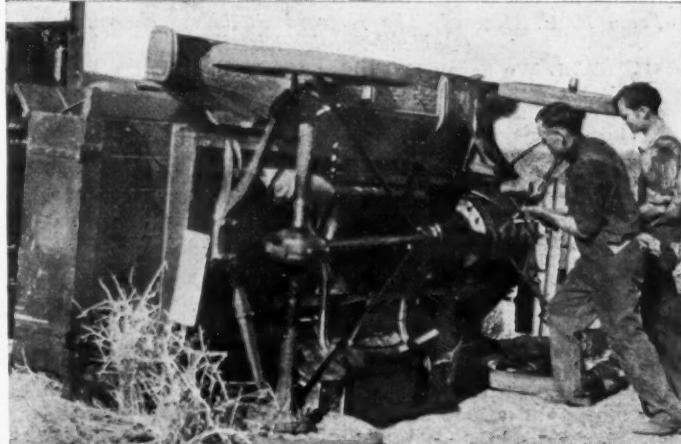
The building is constructed of concrete and steel, the columns and supporting beams being so arranged as to make for the greatest efficiency in a plant of this kind. The entire space of each of the six floors, with the exception of the ground floor, is devoted to the storage of cars, the first floor being used for service. The space on each of the floors where cars stand in numbered stalls is 150 by 200 feet, with room for more than 100 cars on each of the floors. The ramps go up from the center of the floors, ascending vehicles turning to the right and going to the right hand wall where another ramp takes up a half a story. Descending cars also turn to the right, making it impossible for cars to meet and collide.

On the ground floor, as stated, is the service department, where nearly everything of a new and modern nature has been installed for repair work of every description, from so minor a task as washing, polishing and greasing to the most complicated of operations. However, the company specializes only in service of the lighter type.

German Has New Process for Coloring and Finishing Aluminum

A new process for coloring and finishing aluminum, intended to protect the aluminum from oxidation and corrosion, has been discovered by German chemists, a cable to the Department of Commerce from Trade Commissioner Pilger at Berlin states. Forty-six per cent of the country's entire output of aluminum is used in the automotive industry.

The process, according to the report, consists of dipping or boiling the aluminum article in baths containing solutions of copper, zinc, tin and other metal alloys, covering a range of approximately 80 different colors and shades, further variations in effect being furnished by polishing the aluminum before immersion, polishing the coating afterward, brushing the finished surface with a thin coat of wax and other methods. No electric current is used and there is no metal plating on the aluminum, but an actual amalgamation of the outer surface is claimed.



Making Repairs on California Desert

The accompanying photo shows how mechanics improvised a garage in the desert in order to make necessary repairs on one of the many trucks that were used in moving the Lone Wolf Colony from a point near Victorville, Cal., to a point ten miles into the desert. The truck was turned over on its side and the necessary repairs made in quick time. Thus the moving expedition was not delayed.

The Lone Wolf Colony is maintained by the Southern California Telephone Company for employees afflicted with tuberculosis.

Improvement in Ignition Predicted

Improvement in the efficiency and performance of the electrical ignition systems of automobile engines may result from work recently completed at the Bureau of Standards, Department of Commerce, and described in a new Scientific Paper (No. 543) entitled "Linkage-Current Diagram for Representing Magneto Operation." The paper will assist the designer or tester of automotive ignition equipment in analyzing the performance of his apparatus in a scientific way, which is the first step toward any possible improvement.

Everyone who has argued with a balky automobile engine at the roadside or in a garage realizes that the production of power by the engine depends on the proper operation of the mechanism through a certain rather complex succession of strokes known as the engine cycle. He also knows that the production of an igniting spark inside the cylinder at the proper instant is an essential part of this engine cycle. It is realized less widely that to thus produce the spark there must occur inside the spark coil or magneto another and in some ways even more complicated cycle of electrical operations.

The complete electrical cycle can be plotted on the diagram and the effect of changes both in external conditions (such as the presence of carbon deposits on the spark plugs), and of internal construction (such as size of condenser) can be predicted. The paper also gives a detailed mathematical discussion of the electrical changes going on in the magneto, under various assumed conditions.

This paper may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C., at 20 cents a copy.

WHAT DEALERS SAY ABOUT SCRAPPING OLD CARS

(Continued from page 13)

From R. C. Howard, *The Howard Co., New Haven, Conn.*
(Oakland-Pontiac-Kissel)

"SHALL We Scrap the Older Used Cars?"

Your question is a broad one and discussion of it could easily fill the next issue of your magazine.

There is no question there are many cars on the road and in the hands of owners that should be scrapped and if they were scrapped, it would be a financial gain to the owners and the reliable dealers in the country.

Much more could be said in answer to this question, but space will not permit. We trust it will give you a thought.

In answer to your next question "What Shall Be Done About It?" I do not believe any plan can be worked out for the systematic scrapping of such cars. Allow me to explain somewhat at length this answer. I know of no business on earth that is run in the manner that the manufacture of automobiles is today. We have Bradstreet and Dunn and other credit arrangements. In them all producers and others find the financial standing of a dealer and are glad to find it good before opening up business connections. Our experience leads us to believe that most of the automobile manufacturers care nothing for this high standing of the disposer of their products. In fact, we feel they shun such people in most cases unless they can set a high quota of new cars that he will contract to take on sight draft regardless of his ability to sell.

The majority of dealers do not have the capital to fill store houses with these cars. What is the result? The banks virtually own them and the dealers' expenses on those cars are going on in every direction until sold. When the cars are finally sold, what has the dealer?

The manufacturer is the only one who has the power to change this condition and only by concerted action.

This can be done by being satisfied to produce cars for the needs of the people rather than much more and cause all their dealers to bankrupt themselves in their disposition by filling the storage space with useless junk at enormous high prices because he must keep turning over to keep alive.

From R. E. Lee, *Manager St. Louis Automobile Dealers' Association, St. Louis, Mo.*

I HAVE long contended to the automobile trade of St. Louis that their ultimate salvation lay in scrapping or dismembering all of the older used cars which they may take in trade. My experience shows that men have actually purchased disreputable looking old cars for the purpose of trading them in to the more susceptible dealers at a profit over their purchase price.

We also know here that in some instances where we have sold cars to so-called junk dealers, those cars have afterward been presented to dealers to be traded in on new cars.

It is my belief that any car which has been traded in at \$125 or less should be so maimed that it cannot again run. This would eliminate from our field of trading thousands of disreputable and almost useless cars on which some of our weaker dealers are tempted to make long allowances and it would bring to us only good used cars for resale.

I am strongly in favor of junking all cars that have finished their period of usefulness in such a way that they cannot be made to run.

From W. E. Thomas, *Lord Motor Car Co., Los Angeles, Cal.*
(Jordan)

IT is the belief of the writer that if some arrangement could be agreed upon whereby any car older than five years of age should be eliminated from the automobile industry, especially in the way of trading for a new car, the difficulty would be solved, to a great extent. Of course I realize fully that there are a good many cars older than five years that still have lots of good service, and my idea would be not to eliminate them completely, but to bar their being traded in on new cars. This, of course, would be a very difficult matter to accomplish, and in all probability will never be done.

We have had several ideas in regard to the above at different times, but as yet no definite arrangement has ever been agreed upon. However, if the automobile dealers and manufacturers would refuse to accept any cars over a certain age and actually live up to this, it would be a great help to the industry as a whole.

Of course, it will not be many years until a car without

four-wheel brakes and balloon tires will be old-fashioned and will gradually be eliminated, except in rare cases.

There is one thought that might be of interest to you and that is, if the National Motor Car Dealers Association could get together and, should they take in cars of older models, open up a large junk yard and take every car over a certain age and dismantle it in such a way that it could never be used again except as junk material. In this way, something could be realized out of same, and yet they could never be put on the market again in serviceable condition.

Might also add that if more dealers would recondition used cars thoroughly, and merchandise them the same as new cars, the used car problem would be greatly eliminated.

From C. A. Lord, *Lord Auto Co., Lincoln, Neb.* (Hudson-Essex)

AS I feel today, I will be in favor of junking every automobile not actually worth over \$100. That is about our policy now. Anything we get for \$100 we sell to the "Junk Man" for \$25 to \$40 and that ends it.

You are on the right track and I congratulate you on the idea. It would benefit the whole automobile fraternity, also be a benefit to the consumers, who buy these old rattle-traps, as it makes paupers of them and they get little satisfaction out of that kind of "junk."

From Geo. G. McFarland, *Harrisburg Automobile Co., Inc., Harrisburg, Pa.* (Reo)

RELATIVE to scrapping cars, we wish to say that we are, and have been following that practice for twelve or fourteen months, and find it extremely profitable.

True, there are a lot of good cars that have a great many thousands of mileage still under the hood, but the buyers of second handed cars have become so discriminating that to sell a very old model car, even though in good condition, we find practically impossible, and our present attitude to old cars was brought about by not being able to get even the repair and parts bill out of some of the cars are repaired. We find that the good looking car in bad shape, is more readily sold than a first class obsolete designed car, so we have decided not to do much overhauling on obsolete cars.

We do, though, sell some for light trucks by cutting off the touring car body back of the front seat, and putting on a 6 or 7 ft. express body, which we can do for about \$50, and find a limited sale for this kind of transportation.

From W. D. Edensburn, *Manager Michigan Automotive Trade Association, Detroit, Mich.*

WE find by statistics that about 10 per cent of the cars in Michigan annually find their way to the scrap heap, or rather they do not come up for re-licensing, and yet there is an additional 10 per cent every year running which should not be in operation from a dealer's standpoint.

It is my own humble opinion that a great deal of this could be done away with if the dealer himself, when he finds that he cannot merchandise some of the older models of cars which he has taken in, would scrap the cars and dispose of the "junk" himself. There are always certain parts that can be retained and stored for reconditioning used cars of the same make and model and then there are always units of a car which have a certain value.

It would seem to me that the dealer's plan of calling in the junk man and taking a small amount of money for the car to get it out of his way is not a good business proposition, because we find that the junk man runs the car into his yard and then reconditions it and within a month it is likely to be back for the dealer's appraisal to take it in on a new car and he finds that the \$15 he got for the job from the junk man, is now in the mind of the owner, multiplied ten times, he probably having paid the junk man \$50 or \$75 for it and feeling it is worth \$150. The sad part of it is that very often what the customer thinks it is worth is what the dealer allows for it.

Of course, the public is not going to junk its automobiles and the dealer is going to have to perform that service for himself and for the industry. While there is a great divergence of views in the industry, it is my opinion that disposing of the worn-out cars to the junk man creates a liability for every dealer in that particular city.

SOME PROBLEMS OF THE RETAIL SALESMAN

(Continued from page 11)

wives of the salesmen looked forward to this meeting with great curiosity. The salesmen and their wives were seated at a real banquet. After the meal, the women were told that they were invited to the meeting so that they might know what their husbands had confronting them and what the possibilities were in the automobile field. For two hours they listened and when they left all had a better conception of what their husbands were up against.

The biggest point gained at this meeting was in getting the wives to keep a record of their husbands' new car owners and keeping them satisfied by calling the wives of the owners by phone at different intervals.

This actually pleases the wife of the new car owner because she is as much interested in the purchase as her husband and, immediately after her husband comes home from his day's work, she tells him that the salesman's wife called and all about her conversation. The women all promised never to ask their husbands how many cars he sold that day but to let him come forth with the glad news, if there were any. Some said they would ask their husbands how many calls they made that day or how many interviews they were able to get. Others promised that they would encourage them to make night calls where the man and wife could be interviewed together. If husband and wife are interviewed together they will both agree on whatever one of them agrees upon.

In further analysis of the weaker salesmen, it was found that they had very few non-owner prospects and were continually calling upon people already owning cars. It is a problem in this day and age, but they can be found, and the best way to find them is to run a blind used car "ad" in the classified section of the newspaper. A great many people not owning a car feel that their first car should be a used one and also feel that they can purchase cheaper direct from a private individual. They scan the "classified" pages and call 'phone numbers listed or go to the addresses of the different advertisers. These advertisers can be automobile salesmen at their homes, and once they get inquiries they have the names of non-car owners that have expressed their desire to buy and it is up to the salesman to convince them the car he is selling is the car they should buy.

A salesman enters a used car advertisement in the classified section every night for six straight days. Being conservative, say that he got only two calls for each "ad." He would have 12 non-car owners, or in four weeks he would have 48 inquiries from people who wanted to purchase automobiles and at the present time did not own any. If he only sold one-twelfth of the 48, he would have four sales, or in case he only sold one, he would be well paid for his trouble and at the same time would have live prospects to work for future sales.

A Simple Used Car Record Card

A USED car record card that carries a complete record of every used car from the time it is taken in until it has been sold and paid for has been designed by the Burroughs Adding Machine Company, Detroit.

In announcing the new card, which was designed to become part of a mechanical bookkeeping plan for automobile dealers, the Burroughs company states that it gives the dealer a comprehensive record of cost and selling price that will enable him to exercise definite control over his trade-in allowances.

Each used car is represented by a separate card. The first entry is made when the car is taken in. The card is headed up showing the amount of allowance, type of car and number, and from whom it was taken in. Until the car is sold, the ledger card serves as an inventory record to which all expense in connection with reconditioning is added. When the car is sold, the card is transferred to the accounts receivable ledger.

The card illustrated shows that a car was taken in on March 5, for \$235, and that on March 7 repairs and parts brought the total cost of the car to the dealer to \$270.30. Then, on March 9, the car was sold for \$295, and accordingly the "cost" part of the card was closed to be reopened as a ledger card for the buyer.

| USED CAR RECORD | | | | | | | | | | | |
|--|-------------|--|---|-------------|---|------------------|--------|-------|-------------|---|-----------|
| SOLD TO James H. De Pew | | | CAR MAKE Ford Touring | | | OUR NUMBER | | | | | |
| ADDRESS 84 Prenford St. | | | SERIAL | 7450023 | | TRADE NUMBER | 67 | | | | |
| FORMER OWNER Stuart Douglas | | | MOTOR | 8477681 | | APPRAISAL \$ | 235.00 | | | | |
| ADDRESS 214 E. Monroe | | | MODEL | 1925 | | SALESMAN | Waters | | | | |
| ALLOWANCE ON NEW CAR <input checked="" type="checkbox"/> | | | CONSIGNMENT BASIS—NEW CAR SALE PENDING <input type="checkbox"/> | | | —CHARGE CUSTOMER | % | | | | |
| OUTRIGHT PURCHASE <input type="checkbox"/> | | | CONSIGNMENT BASIS—NEW CAR DELIVERED <input type="checkbox"/> | | | —CHARGE CUSTOMER | % | | | | |
| EQUITY BASIS <input type="checkbox"/> | | | CONSIGNMENT BASIS—NO ORDER INVOLVED <input type="checkbox"/> | | | SELL AT \$ | | | | | |
| MAR 5 | 2 1 5 | | DEBITS | 2 3 5 0 0 | V | DATE | MEMO | FOLIO | CREDITS | V | BALANCE |
| MAR 7 | REP 2 1 3 5 | | | 3 2 5 0 | | MAR 9 | 2 4 7 | | 2 7 0 3 0 — | | 2 3 5 0 0 |
| MAR 7 | PTB 2 1 6 4 | | | 2 8 0 | | | | | | | 2 7 0 3 0 |
| | | | | | | | | | | | .00 |
| MAR 9 | 2 4 7 | | 9 5 0 0 | | | MAR 9 | 2 4 7 | | 9 5 0 0 — | | 2 1 4 3 0 |
| APR 9 | 1 9 2 7 | | 2 1 4 3 | | | APR 9 | C SH | 2 1 2 | 2 1 4 3 — | | 1 9 2 8 7 |
| MAY 9 | | | 2 1 4 3 | | | | | | | | |
| JUN 9 | | | 2 1 4 3 | | | | | | | | |
| JUL 9 | | | 2 1 4 3 | | | | | | | | |
| AUG 9 | | | 2 1 4 3 | | | | | | | | |
| SEP 9 | | | 2 1 4 3 | | | | | | | | |
| OCT 9 | | | 2 1 4 3 | | | | | | | | |
| NOV 9 | | | 2 1 4 3 | | | | | | | | |
| DEC 9 | | | 2 1 4 3 | | | | | | | | |
| JAN 9 | 1 9 2 8 | | 2 1 4 3 | | | | | | | | |
| | | | | 3 0 9 3 0 — | | | | | | | |

Card designed to keep complete record of used car transaction

Selling price of the car to the buyer, including interest, is represented by a down payment of \$95 and ten notes of \$21.43 each, or a total of \$309.30, which figures are entered in the debit column. As payments are made, to correspond to the debit items, they are entered in the credit column, and subtracted from the amount still outstanding. The amount outstanding, or new balance, is then entered in the balance column, so that the last, or lowest, figure in that column always shows the amount still due.

The outstanding feature of the new record card is that it always shows total cost and total selling price, and is the basis, in the Burroughs bookkeeping plan, for control cards on total used car sales and total cost of sales. With these cards up to date, the dealer knows at any time of the day or month, the exact amount of money he is making or losing on used car sales.

This information, the Burroughs announcement states, will materially assist the dealer in controlling trade-in allowances.

Wiring Diagram and Electrical Data for 1926 Chevrolet

GENERATOR
Remy, 943-B

ROTATION left hand from commutator end. Performance Data—Gen. cold.

| Amps. | R.P.M. |
|-------|--------|
| 0 | 450 |
| 6 | 800 |
| 10 | 1000 |
| 14 | 1200 |
| 17 | 1600 |
| 21 | 2500 |

Motor Freely—5 amp. at 6 volts.

Max. Stall Current—19-21 amps. at 6 volts.

Field Test—6 amps. at 6 volts directly across field coils in series.

Brush Spring Tension—16-18 oz. on each.

Third Brush Adjustment—Loosen cover band. Then loosen locking screw which is on the outside of the end bracket. This releases the brush mounting plate which can then be shifted by hand. Relock after getting proper adjustment.

STARTER
Remy, 710-C

Rotation left hand from commutator end.

Connection to Engine—Bendix drive.

Running Free—65 amps. at 5.2 volts 5000 R.P.M.

Cranking Engine—175 amps. at 5 volts.

Lock Torque—10 pound-feet, 425 amps. at 3.5 volts.

Brush Spring Tension—24-28 oz. on each.

Starting Switch—Remy, 405-C.

Fuses—Single, 20 amps. fuse mounted on switch back.

Firing order—1-2-4-3.

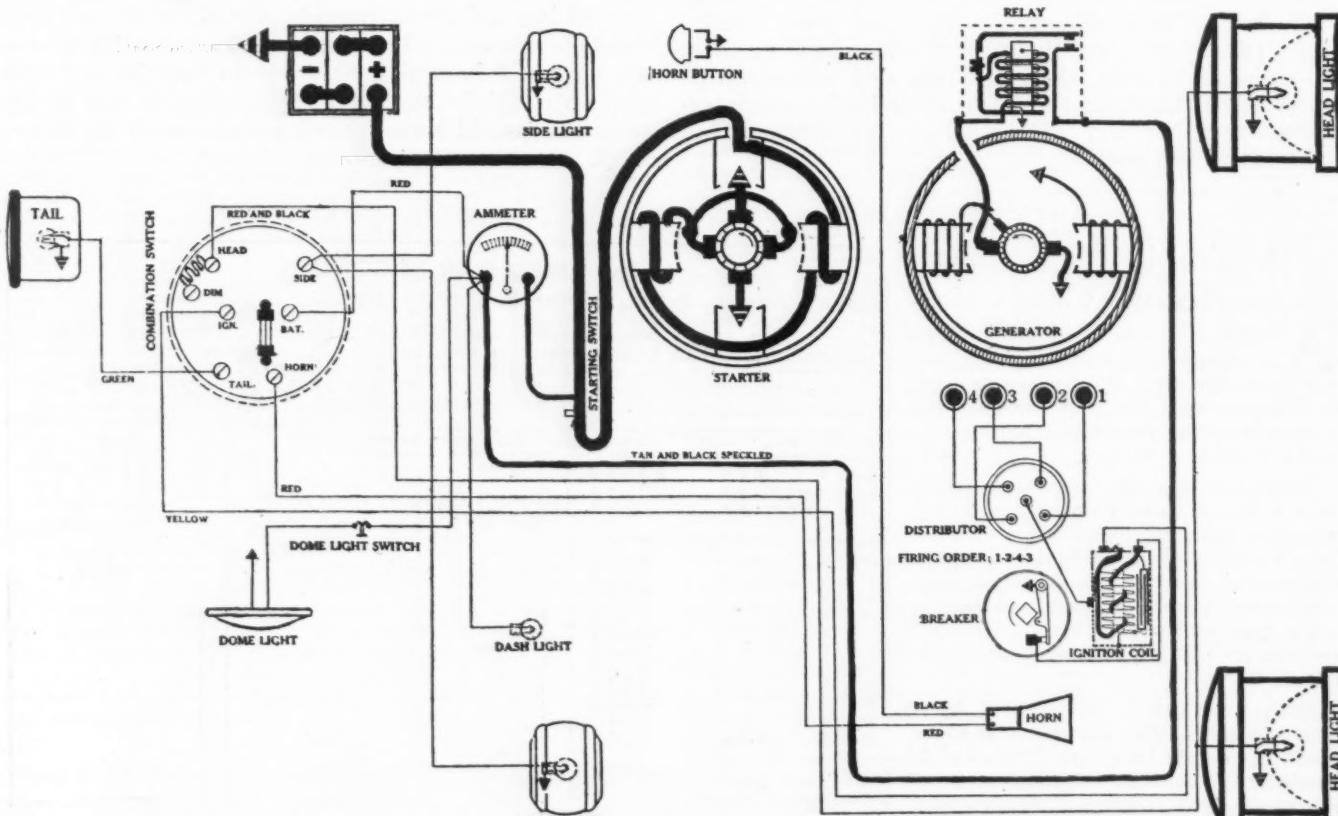
RELAY

Closes—7-7.5 volts.

Opens—0-2.5 amps. discharge.

Contact Gap—.015-.025 inch.

Core Gap—.014-.018 inch contacts closed.



Wiring diagram for the 1926 Chevrolet
Diagram and data from Standard Auto-Electrician's Manual

They Prolong Car Life

THE life of a chassis spring can be almost doubled if protected with an efficient shock absorber. Experiments conducted by the Detroit Steel Products Co., Detroit, Mich., show that the uncontrolled spring will fracture after an average of 46,577 shocks whereas a similar spring controlled

with a shock absorber will endure an average of 87,041 major impulses or shocks. These tests are made with a laboratory machine which gives the spring a very severe test so that these figures are comparative and show the ratio of durability rather than the actual number of deflections available when in use on the car.

A Book About Canada

Canada and the Twentieth Century is the title of a handsomely illustrated book of 144 pages devoted to the business opportunities in Canada. Any one interested in engaging in business in Canada would find this volume of value. It will be sent free upon application to the Economist's department, Royal Bank of Canada, Montreal.

The READERS CLEARING HOUSE

Questions And
Answers



On Dealers
Problems

Four Cylinder Essex Piston Again

In the Clearing House of February 10, 1927, on page 25, under the heading of "Removing Essex Pistons" you advised the correspondent against removing the Essex four pistons from below. It is true that the pistons will come out of the top readily, but when you try to replace them from the top there is a slight but abrupt shoulder where the top of the bore meets the combustion chamber. I have found it practically impossible to get a piston with the rings on to enter from the top. On the other hand the lower part of the bore is provided with a generous taper or chamfer apparently showing that the builders intended that the pistons be installed from below. It is a simple matter to take these pistons out at the bottom if you only stop a moment to figure out how it will be done before you start. If the crankshaft is placed so that the counter weight on the throw of the shaft for the barrel you wish to work on is just coming down from top center, it is easy to pull the piston down, place the lower portion of the skirt of piston against the flat part of the weight. Then grasp the rod near the piston with one hand and the crankshaft with the other. The piston can then be cranked out in a couple of seconds. To replace the piston just hook the piston over the weights and crank it back up. The saving in time by using this method is literally enormous as compared with removing the head on the Essex four. It is advisable when removing pistons as I have described to grasp the rod close to the piston and hold it firmly against the cheeks of the crankshaft to keep the piston from coming out suddenly and jamming.—Fred J. Schaefer, 1309 W. 62nd St., Los Angeles, Calif.

FOR replacing rings only your method is doubtless a very good one. If the pistons themselves need replacing we question the advisability of using your method. The ridge that you find at the top of the cylinder bore is no doubt caused by ring travel which wears the cylinders away up to a certain point and above this point leaves the original diameter of the bore. Methods used in building the engine are not always suitable for repairing it. This might apply to introducing the pistons in the first place where it is a simple matter to leave a chamfer at the bottom of the cylinder bore but might interfere with the operation of the engine if a similar chamfer were left at the top. The contribution of your method to other MOTOR AGE readers is, however, very much appreciated.

USE A THINNER LUBRICANT

We have in our shop a 1926 Essex car which leaks grease from the transmission. The grease seems to work out along the shaft just back of the clutch collar.—A. C. Loder, Motor Inn Garage, Juanita, N. Dak.

GREASE should not be used in the transmission. It requires engine oil. In the cap which holds the front

bearing of the transmission there is an oil return hole which is designed to take the lubricant which works into the bearing and drain it back into the transmission. When grease is used it works through the bearing but due to the size of the hole does not return readily. Oil on the other hand, even if it works into the bearing more rapidly than would be the case with grease, will also drain readily through the hole provided for this purpose.

Readers' Clearing House Index

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Fast Driving Takes More Gas

Would like a little information on the gasoline consumption on the 1926 Chrysler model 70 coach. This car is driven at an average speed between 45 and 55 m.p.h. and gives about 13 miles per gallon. Have tried two different carburetors, checked timing, also looked for dragging brakes, also tried different jets in the carburetor, but 13 miles per gallon is the best it will do on a long drive at practically constant speed.—C. G. Welcher, Ellis, Kan.

THE wind resistance which a car encounters goes up about as the cube of the speed. Accordingly as the speed increases the power increases very rapidly and the gasoline consumption goes up. We recently saw some information in regard to mileage that could be obtained from a certain car. It varies all the way from 10 to 50 miles per gallon. The 50 mile figure was obtained by trick driving, that is, speeding up the car with wide open throttle and then shutting off the engine and allowing the car to coast to about 10 miles per hour and then repeating. The 10 miles per gallon was obtained driving at 70 miles per hour. It was also stated that the gasoline mileage would fall off about 3 miles per gallon for every increase of 10 miles above a certain figure. For example on the car in question this would mean that if you were getting 19 miles to the gallon at 25 miles per hour you would get 16 miles to the gallon at 35 miles per hour and 13 miles per gallon at 45 miles per hour. These figures might not apply absolutely to the car you refer to, but show the general tendency for the gasoline consumption to increase rapidly at high speed.

FILLING WITHOUT SPILLING

HERE is an idea that may be of some benefit to a fellow reader of MOTOR AGE. On most automobiles the vacuum tank is hard to fill because the ordinary funnel does not fit. I took a tin can the other day and punched a hole in the bottom from the inside large enough to receive a $\frac{1}{8}$ in. copper tube or a gas line about 8 in. long. I soldered this in the hole at the bottom of the can and now have a funnel that makes the filling job easy. Using this filling device you can go away and do something else while the can empties into the vacuum tank, and it also has the advantage that it does not spill gasoline all over the whole engine.—Harry S. Boes, Boes Garage Co., 510 S. 13½ St., Terre Haute, Ind.

Planning Your New Building

Tire Dealer Wants Super Service Station

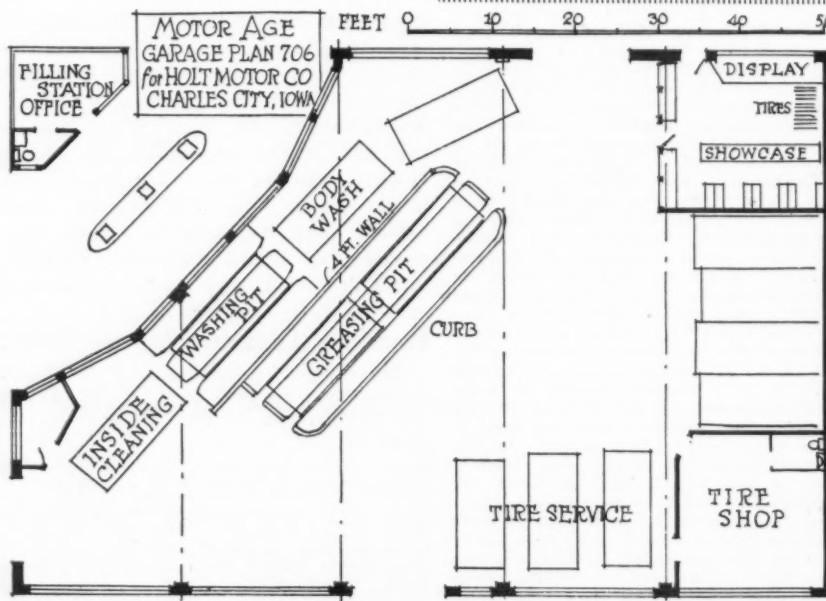
We are enclosing a ground plan on which we contemplate a building to house the following services: Car sales and service, tire and accessory sales, tire repairing, car washing and cleaning, Alemite greasing, gas and oil station. The car sales and service may be eliminated but we have in mind a super service station and want all information and plans possible. We will appreciate your early attention to this as we plan to change at an early date.—Holt Motor Co., 803 Clark St., Charles City, Iowa.

We believe that it will be necessary either to eliminate the filling station or the car sales and service as otherwise the building would be so cluttered up that it would be anything but a super service station. A filling station built into the corner of a building of this sort always puts a handicap on the arrangement and it has been very difficult for us to make a layout that would be at all satisfactory. The one we show has its shortcomings but it also has features which we believe are of value.

We have arranged for one of the progressive wash racks fitted up with one of the approved washing systems now on the market. The cars are cleaned inside, then drive over a shallow pit where the under-side washing is done. Beyond this the body is washed and wiped dry and the job is finished.

This layout is arranged so that cars stopping for gas at the filling station will see the washing operation through

By Tom Wilder



Accessories are displayed to patrons of the greasing and washing service and washing is displayed to patrons of the gas station

the windows and this we believe will lead to considerable washing business which might not otherwise come in.

Another feature is the arrangement of the accessory store with show cases on the inside of the garage room. This brings the accessory display in contact with customers who are waiting for cars to be greased or washed, and will

undoubtedly lead to many sales.

The greasing pit has capacity for two large cars and may be either entered or left at either end, although it is planned for all cars to enter the building from the front or Clark Street side and leave at the side entrance.

LEGAL QUESTIONS ANSWERED

By Wellington Gustin

COLLECT BY SELLING CAR

In the early part of January an Overland 4, 1924 or 23 touring, was driven into my repair shop for motor repairs. A few days after I had performed needed services (totaling \$29.20) I received a letter from an investment company in Indiana that the car was theirs. I sent them a bill against the car and a month passed without any action on their part, running bill with storage to \$37.20 (another month's storage due now, making it \$45.20). I wrote them repeatedly without results. Finally sometime ago I received a letter authorizing me to sell the car for not less than \$100, then taking my dues and mailing them the balance. However, it is impossible to sell said car for \$100, as it is minus tires, fenders jammed, etc. What am I to do to get my repair and storage bills and rid me of the car which is just an obstruction of storage in a small garage?—Wagner Motors, Gary, Ind.

YOU are in a position to enforce your claim for repairs and storage by foreclosure of your lien covering these charges. You will need an attorney to do this as the statute giving the lien must be strictly followed in order to safeguard the sale and passing of title under the foreclosure against a comeback, or claim that the sale was invalid. Under your lien you are entitled to make sale and from the proceeds pay court costs and your own claim for repairs and storage, any balance going to the owner.

Should the investment company prove to be holders of a prior mortgage, and not the owner, and also never to have authorized the repairs, etc., nor by their letters to have given assent to your claims, then you may encounter difficulty in the way of your selling the

car. But all you can do now is to proceed to action and meet this possibility if it arises, at which time your attorney will know best what to do. On this question the law in Indiana is highly favorable to the garagekeeper. In the case of Watts vs. Sweeney, 22 American States Reports 615, the Supreme Court of Indiana said: "Where the property is to be retained and used by the mortgagor for a longer period of time it will be presumed to have been the intention of the parties to the mortgage, where it is property liable to such repairs, that it is to be kept in repair; and when the property is machinery or property of a character which renders it necessary to entrust it to a mechanic or machinist to make such repairs, the mortgagor in possession will be constituted the agent of the mortgagee to procure the repairs to be made; and as such necessary repairs are for the betterment of the property, and add to its value to the gain of the mortgagee, the common law lien in favor of the mechanic for the value of the repairs is paramount and superior to the lien of the mortgagee."

Answers to Readers' Questions

Castor Oil Sticks the Rings

Why is castor oil used in racing engines in place of the usual mineral oil? Since all internal combustion engines must carbon up why does it not affect the sleeve valve as well? I would also appreciate an answer to this argument: A says castor oil will carbon up an engine quicker than the usual oil. B says castor oil will not carbon an engine as quick and C says if the rings are tight the oil does not affect the carbon in the engine either way. Does castor oil have a tendency to crystallize the parts of an engine? If so, why?—Paul Sartes, 667 Perrin Ave., Lafayette, Ind.

BLENDs of castor and mineral oil are now used in racing instead of just castor oil. The detrimental effect of castor oil is in the formation of gummy residue rather than in the formation of carbon. The advantage of castor oil is that it maintains considerable viscosity even at very high temperature, while most mineral oils become about as thin as water. Castor oil would have absolutely no effect on the parts of an engine and would not tend to crystallize them. Crystallization takes place in a metal when it has been hammered or vibrated for a long period of time. One effect of castor oil used in an ordinary automobile is that it gums up the piston rings and sticks them in the piston so that they do not come out and maintain proper tension against the cylinder wall. In a race car this is of no great moment as the race car is frequently overhauled. In a commercial vehicle or passenger car however, it is an undesirable feature. Carbon will affect a sleeve valve engine as well as a poppet valve engine. That is, carbon in the combustion chamber will have the same tendency to cause a knock. In the operation of the sleeves however, the formation of carbon seems to fill up the little irregularities and cause the sleeves to make a better contact than they otherwise would. Referring again to castor oil, the formation of carbon as far as quantity is concerned will not be appreciably affected. However, the carbon formed is of a very hard nature and requires a very sharp scraper for its removal.

DATA ON NASH

What is the rated R.P.M., the brake horse power and the rated horse power of the 1926 Advanced Six Nash engine? How can the car speed be calculated in miles per hour? Can this car be speeded up by changing the differential gears and what would be the probable speed? —John H. Berry, 519 N. 11th St., Manhattan, Kan.

THIS engine has a rated horse power of 28.37 and is scheduled to develop 69 horse power at 2500 R.P.M. On the basis of speed at which the peak horse

power is obtained it will develop 54.5 miles per hour. The gear ratio is 4.5 and the calculation is as follows:

$$\text{R.P.M.} \times D$$

$$S = \frac{2500 \times 33}{336 \times G}$$

In the above formula S stands for the speed of the car, R.P.M. stands for revolutions of the engine, D stands for the diameter of the wheel in inches and G stands for the gear ratio. Substituting the values in the formula we have

$$\text{Speed} = \frac{2500 \times 33}{336 \times 4.5} = 54.5 \text{ M.P.H.}$$

This is not the maximum speed for a speed can be obtained at points above that at which the horse power is maximum. A lower rear axle gear ratio may be used if you have acceleration and power to spare.

FORD BABBITT MATERIAL

I am going into the business of rebabbing Ford connecting rods and would like to know the specifications of the babbitt originally used in such rods. —Harry Collier, Horace, Ill.

THE constituents of babbitt used in Ford connecting rods are as follows:

| | |
|----------------|----------------|
| Copper | 7.0% to 7.5% |
| Tin | 85.0% to 86.0% |
| Antimony | 7.0% to 7.5% |
| Lead | 10% or less |

SHOP KINKS IDEAS That have been Found Useful

TO MAKE AN EXTENSION DRILL

To make an extension drill from any straight shank drill I use a round piece of shafting $\frac{1}{8}$ in. larger than the drill and bore it out with the drill which is going to be used. Then tin outside of drill shank and inside of hole and sweat the two together. After drill has been used it may be separated and will be none the worse.—Walter Cockrell, Watkins & Cockrell, McKinney, Tex.



Readers of MOTOR AGE are invited to submit ideas that they have found useful in doing some particular service job in the shop in a better or quicker way. For each one published \$2.00 will be paid. Whenever possible the idea should be accompanied by a sketch or diagram from which a drawing can be made.

How Fast Is a High Speed Engine?

We hear a lot of discussion which I do not believe amounts to a great deal in regard to high speed engines. Would you be kind enough to give me your opinion as to what constitutes a high speed engine? The Star car which we handle turns over about 2400 r.p.m. Many others use about the same speed. Essex is about 4000. Would appreciate it very much if you could give information along this line as to just what is meant by high speed and low speed engines and what is the advantage and disadvantage.—H. B. Dunlap, Dunlap Motor Co., Ames, Iowa.

IF you will refer to the specification tables given in the January 6th, 1927, National Shows Issue of MOTOR AGE you will find a column which gives the maximum horse power and speed at which this horse power is attained. In this column you will find that the Ford engine has its maximum horse power at 1600 r.p.m. There are many as you say that have the maximum power at about 2400 while there are a great number around 2800 and 3000 r.p.m. High speed is a relative term, but it is easy to see that there are many engines turning much faster today than they did ten or twelve or fifteen years ago. Higher speed gives smoother operation, but there are many factors entering into the problem of engine speed and there is now some tendency in engineering circles to cut down the speed at which engines perform. This is shown in the recent development of a four speed transmission which operates quietly in either the third or fourth position.

GIVE TAPPETS MORE CLEARANCE

There is in our shop a 1926 Overland six which has valve trouble, the valves being warped, burnt and badly pitted. Several reputable repairmen have tried to correct this trouble without success. The valve job in each case does not last more than 500 miles. Now the car has been brought to us and we want to make a good job of it as up to the present we have had no comebacks. Aside from the valve trouble the car is in good shape.—Leland Schaeffer, Coyotesville, Bergen County, N. J.

THIS engine uses alloy valves and there should be no reason for trouble of this character. Probably the mechanics who worked on it previously adjusted the clearance too close. It should be .006 in. cold for the inlet valves and .008 in. cold for the exhaust valves. Some customers are perhaps a little fussy about a slight amount of valve noise and insist on having them set closer than they should be. The job in this case is to sell the customer on car performance and car life, as a slight amount of valve noise is unavoidable in any engine using poppet valves.

Clearing Up Electrical Troubles

Lincoln and Cadillac Ignition Explained

Would like an explanation in regard to the ignition system on a model 61 Cadillac. Is the four or eight sided cam used? Do both sets of contacts break at the same time and is there only one coil and condenser used? How does the Lincoln differ from this system?—Indiana Subscriber.

THE model 61 Cadillac uses an eight sided cam and two interrupter levers. The two levers, however, do the same work and operate at the same time. The reason for using two is to divide up the current between two sets of contacts so as to reduce the burning at any one set. It also gives increased reliability, for if one pair of contacts bounces open at high speed it is likely that the other contacts will not bounce at the same instant. For this reason there is more chance of the current in the primary building up in time to produce a good spark.

The Lincoln ignition is fundamentally two four cylinder ignition systems built into one. There are two ignition coils, two primaries, two secondaries, two condensers and two sets of interrupter contacts. There are also two circuits through the high tension distributor rotor and distributor cap. This arrangement works out well on the Lincoln where the cylinder blocks are at 60 deg. and the firing impulses are not evenly spaced as they are on the Cadillac where the blocks are at an angle of 90 deg. The two sets of interrupter arms are placed at such an angle that the correct firing interval is obtained with a single four cylinder cam.

On later Cadillac cars, the model 314 for example, a system is used which may look like the Lincoln but in principle is quite different. Here a four cylinder cam and two sets of contacts are used, but only one coil is needed. The two sets of contacts take turns in producing the spark. As soon as one set of contacts has opened the circuit the other set of contacts closes the circuit so that there will be ample time for the current in the primary winding to build up.

IGNITION COIL AMPERAGE

I wish you would let me know through MOTOR AGE what is the average amperage of the ignition coil of an automobile.—Samuel Andrus, R. F. D. No. 3, Bellefonte, Pa.

THE average coil operates on 6 volts, that is, it gets its current from a 6 volt battery. When the interrupter points open, however, there is a voltage in the primary induced which may be in the neighborhood of 100 volts. You can feel this if you wet your fingers

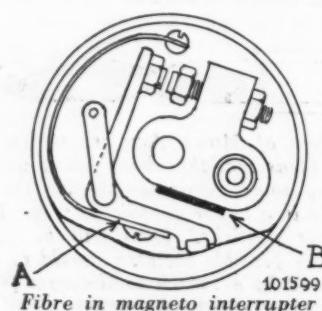
Edited By A. H. Packer

and put them across the interrupter when the engine is running. There is a still higher voltage generated in the secondary winding, this being the voltage which produces the spark. This may go up as high as 8000 or 10,000 volts. Normally 4000 or 5000 volts will break down the gap in the spark plugs and as soon as a spark jumps the voltage drops down because it is easier for the current to flow after the arc has been established. The current in the primary winding will build up to about 4 amp. when the points close. When the points open it dies out to zero so that the average reading as shown on the ammeter may be about 1.5 amp. when the engine is running slowly.

PREVENTS A STRAY SPARK

Please state the reason for using a strip of insulation on the interrupter arm of a four cylinder Bosch magneto. This insulation is placed between the arm and the spring which is supposed to hold the arm in place.—Montana Subscriber.

WE are showing a sketch indicating two points, A and B. The place you describe according to our understanding of your letter is point A, but there is no insulation strip used between the ground arm and the spring which connects to it. In fact the spring serves to give the arm a good ground connection. On some magnetos however, particularly those intended for high speed operation, there is a fibre strip at the point marked B. This is intended to act as a bumper and keep the points from opening too far, the lower part of the grounded arm as shown in our sketch striking against fibre piece B. This would permit the points to close again in order to build up the circuit for the next spark and would also overcome any tendency for a stray spark to be produced as might be the case if the grounded arm should make metallic contact with the insulated portion of the interrupter at the point marked B.



Testing Condensers with Tapering Voltages

Can you tell me approximately the inductance in Henrys of the primary and of the secondary windings of a Ford coil unit, also the capacity in microfarads of the condenser and the break down voltage of the condenser?—Arthur C. Ansley, 424 W. 20th St., New York City, N. Y.

WE have no data on the inductance. Condenser capacity is approximately .5 M.F. (microfarad). Condensers must withstand a voltage which may be from 100 to 200 volts, in ordinary service. The voltage will vary with the width of the spark plug gap. In testing a condenser when it is first made there is a breakdown test which may vary from 500 to 1000 volts. This is just general practice and the Ford practice may not be identical. It is then customary to make further tests at lower voltages. This is due to the fact that there seems to be some weakening of the insulation by the initial test and other tests made at very high voltage would break down a great many condensers. The second test might be made at 350 volts and the third test at 250 or something of that sort. A condenser can hardly be said to have a definite voltage at which it will break down any more than a spring can be said to have a definite load at which it will break. The breakage of a spring depends not only on the load but on the number of times the spring has flexed. In the same way the resistance of the condenser to break down seems to depend not only on the voltage, but also on the period of service it has withstood.

CORRECTION ON CHARGING COST

WE are very much interested in your article in the February 24th issue of MOTOR AGE under the Reader's Clearing House section covering the cost of battery charging, in answer to an inquiry from Mr. Estyl Colville, of Union Star, Mo.

In figuring out the cost of charging with a Tungar however, we notice that you use an average battery voltage figure of 8 volts and it has been our experience that owing to the negligible resistance of the charging lead of the Tungar that the average voltage would be nearer 7. This is based on figuring the rise of voltage per battery from 6.5 volts to start to 7.5 volts at the finish. This would make some reduction in the cost, for example when charging 4 batteries with a 10 battery Tungar it would reduce it from 26 to 24 cents. —E. N. Sampson, Tungar Sales, General Electric Co., Bridgeport, Conn.

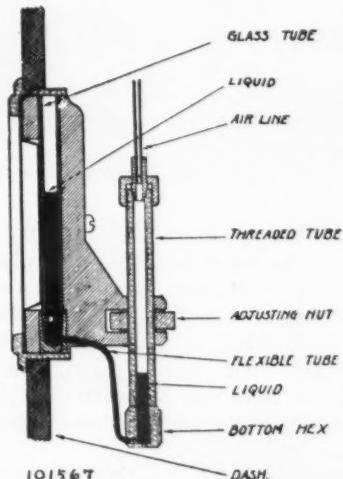
Answers to Readers' Questions



Replacing the Gas Gage Fluid

Would like some information in regard to the gasoline gage on dash of Willys Knight model 65, year 1925. This gage registers the number of gallons in the tank by a red fluid in glass on instrument board but when car is tipped over on side the red fluid will not show up in glass to tell amount of gas in tank. Please advise how to repair and where to look for trouble.—Felix E. Julius, Stockton, Ill.

THIS is a K-S Telegage and the red liquid is raised or lowered due to pressure transmitted in proportion to the amount of gasoline in the tank. If



Section of K-S Telegage

you turn the car on its side to work on it the red liquid will run into the air line and perhaps flow back into the gasoline tank. You can get some of this red liquid by writing to the King Seeley Corp., 2450 S. Michigan Blvd., Chicago.

We are showing a sectional view which illustrates the portion of the gage which is on the dash.

(a) To refill the gage, first disconnect the air line, holding the threaded tube with a wrench at the bottom hex. New liquid may be put in the gage at the top of the threaded tube with a medicine dropper. The gage may be either filled when on the dash or it may be removed and held in an upright position. If the gage is removed it should not be tilted even when there is no liquid in it as the wire shims may be lost from the threaded tube. If the shims drop out they should be replaced, as the accurate reading of the gage depends upon their being there. The gage should read zero (empty) when it is in place on the dash. A slight adjustment of the reading of the gage may

be accomplished by turning the adjusting nut.

(b) Before connecting the air line to the gage it should always be blown out with compressed air. If compressed air from a tank is used, care should be taken not to use air which contains moisture as this moisture will collect in the air line and prevent the correct reading of the gage. A very satisfactory way of blowing out the air line is by means of a tire pump; this gives as much pressure as is required and the air is free from moisture. Blowing through the air line with the mouth does not give sufficient pressure.

(c) If the gage shows a reading above zero, but fails to register accurately even when the engine is running, it indicates that gasoline is in the air line. In such cases detach the air line from the gage and blow out the air line observing precaution under (b).

(d) If the gage fails to register or if it reads correctly while the engine is running and then drops down and shows too low a reading after the engine stops it indicates a leak in the air line. This trouble in most cases may be remedied by tightening the nuts at the ends of the air line.

(e) If the gage shows a reading much below zero after air line has been disconnected, it may be due to a leak in the gage.

REMOVING GRAHAM TRUCK CLUTCH

Explain operation of removing clutch from Graham Bros. truck, model 24, as it seems the cross member which supports the engine has to be removed.—G. J. Blaneett, 127 Russel Ave., Susanville, Calif.

THIS is correct. The cross member which supports the engine is assembled on the flywheel housing along with the clutch housing. It is accordingly necessary to jack up the engine or place some support under it while working on the clutch.

Says 67 M.P.H. Is Too Slow

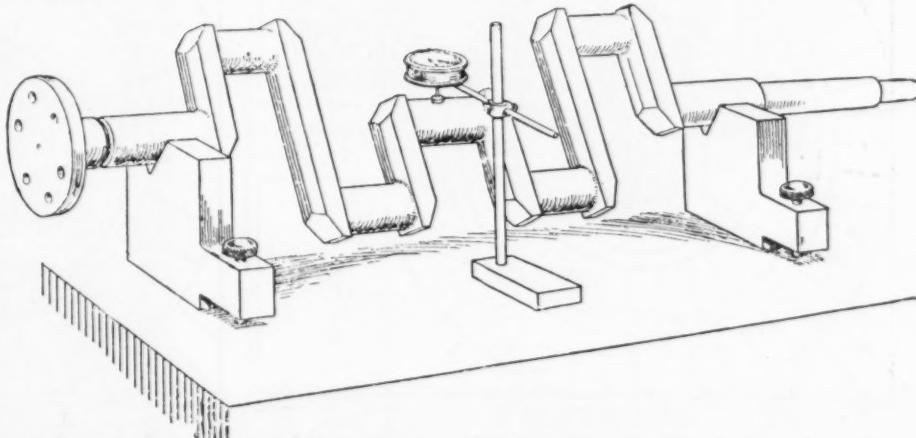
We have a Willys Knight model 70 coupe which will do 67 miles per hour with ease. It has plenty of power to do all the hill climbing in this part of the country. This car has a gear ratio of 5.1 to 1. Could it have a ten tooth pinion installed with the present ring gear? Would it be necessary to purchase both ring gear and pinion?—Harry C. Papeke, 105 Park St., Whitewater, Wis.

IT is not feasible to install a pinion only and you would have to have special pinion and ring gear made up. We doubt however, whether you would find this satisfactory for you would notice a perceptible difference in the way the car would accelerate and climb hills. In the design of a car all factors are taken into consideration when the gear ratio is decided upon and you might even find that the maximum speed would not be as great. Any engine has a certain point at which it develops its maximum power which explains the reason for carefully co-ordinating the various units of the car design. We are giving you however by letter names of concerns which supply gears so that you can experiment if you wish to do so.

TO SEE IF IT'S BENT

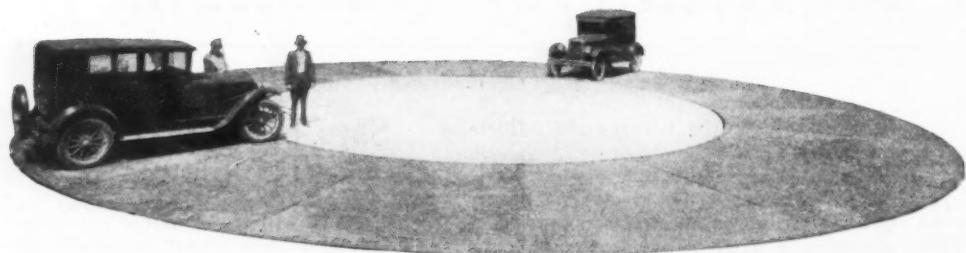
How do you use a dial gage and Vee block to check up a crankshaft to see whether it is bent or not?—Chieno Mechanic.

A WAY of doing this is shown in the sketch which is published. The Vee blocks should be located on a surface plate and the crankshaft is then set with the end bearings in the Vee blocks. The dial gage is used as indicated and will show up any variation in the center bearing. If there are four, five, seven or nine bearings a check can also be made on the others, if desired.



Checking crankshaft with vee blocks and dial gage

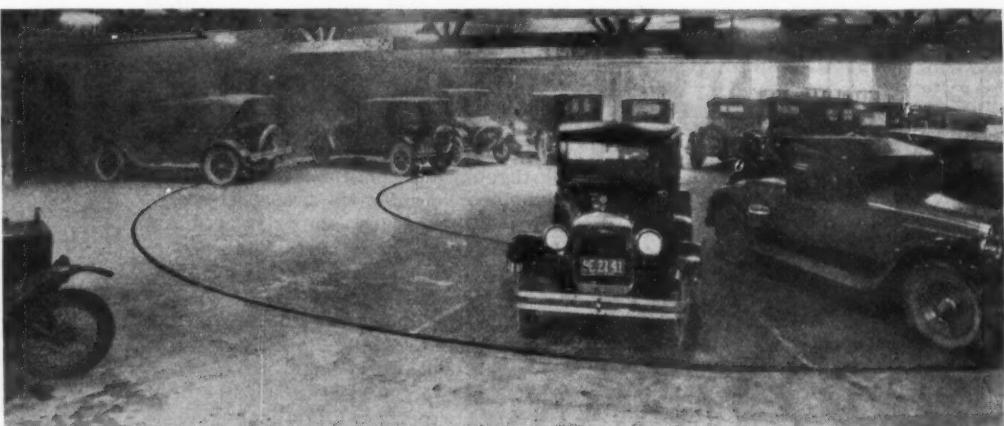
New System of Parking Cars



The Rota-Floor Garage System Does Away with Aisles and Fills Every Available Space with Cars Placed in Circles Like the Spokes in a Wheel

The Rota-Floor is a doughnut shaped turntable set into the floor so that its surface is flush and consequently offers no interference to car movement over it.

At the right is a view of the Rota-Floor installed in the garage of the Sheppard Garage Corp., Jordan dealers of Niagara Falls, New York. This installation is 30 ft. in diameter, carries 16 cars, requires 8 h.p. to start and 4 h.p. to keep it going with full load. The Sheppard Corporation is very well satisfied with their installation and claim an increase of 50 per cent over former capacity.



JUST about the time we think the new things are all used up someone comes along with one that is a real novelty.

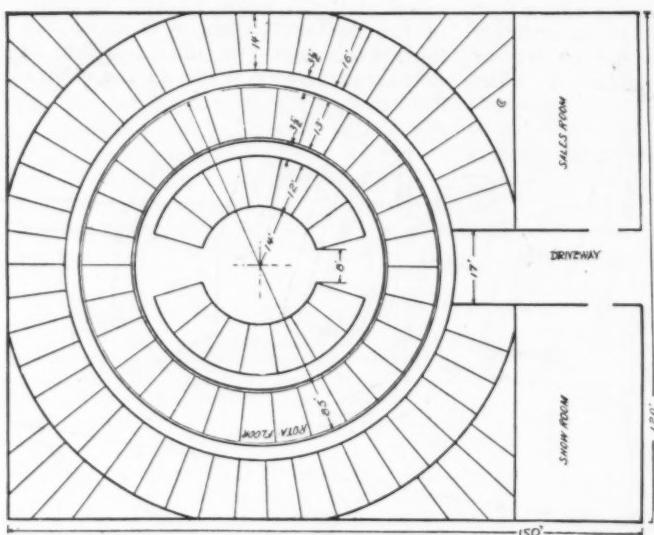
We have used turntables for years to get cars around sharp corners, but it has remained for the Niagara Rota-Floor Garage Corp., of Niagara Falls, N. Y., to build a turntable large enough to place cars around all the walls of a garage and in the center, too.

The Rota-Floors are built in many sizes up to 100 ft. in diameter to suit different sized floors, are suspended on roller bearings of standard make and revolve practically noiselessly. The motive power is standard elevator equipment mounted out of sight under the floor and actuates the Rota-Floor by means of ordinary cables.

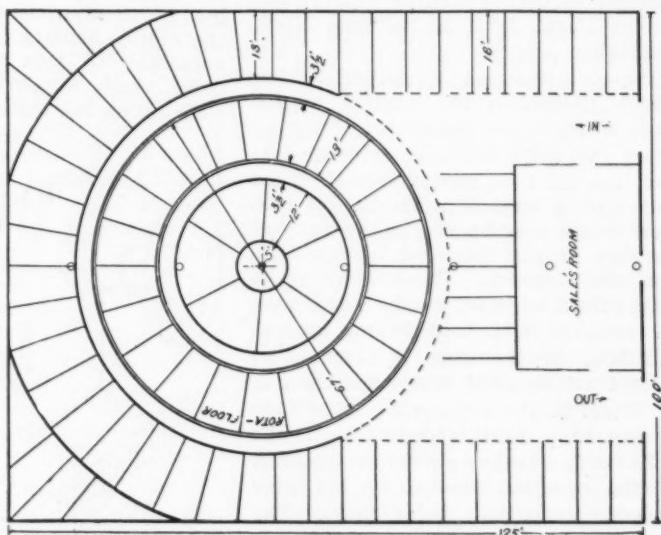
One advantage of this system is that the Rota-Floor

need not be operated until the outer circle and corner spaces outside the rotating element are entirely filled, since cars may drive directly across the device and inner circles to outside parking spaces. After the outer circle is filled the Rota-Floor itself may be filled from the inside circle leaving one space open. From then on the Rota-Floor must be revolved both to fill the inner circle until such time as the space becomes empty enough to permit free movement.

Multifloor buildings may be equipped with this system, the cars reaching the various floors by means of ramps or elevators in the usual way. The construction of the device is of steel throughout and the total depth of the depression in which it operates is 8 in. It is operated by buttons conveniently placed in the garage much on the order of an automatic elevator.

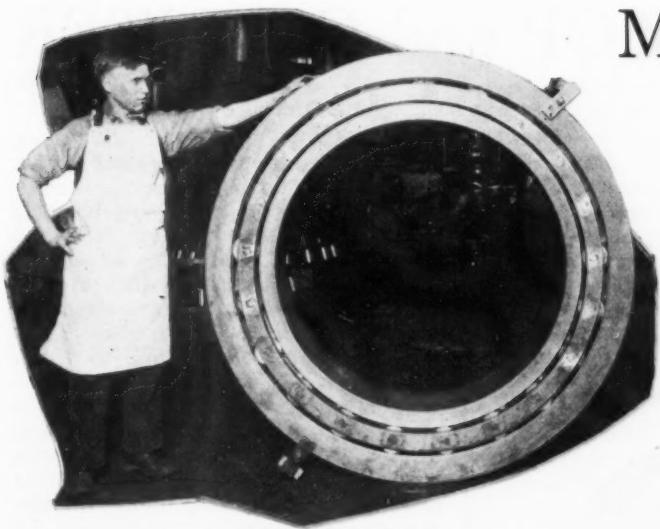


Plan of an 85 ft. Rota-Floor installed in a 120 by 150 ft. garage with center entrance and showrooms in front

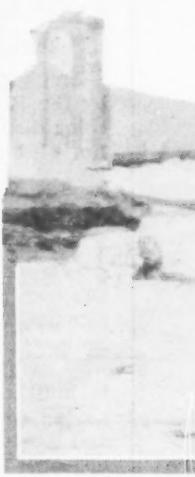


A 67 ft. Rota-Floor in a garage 100 by 125 ft. Here the entrance and exit are on either side of a central salesroom

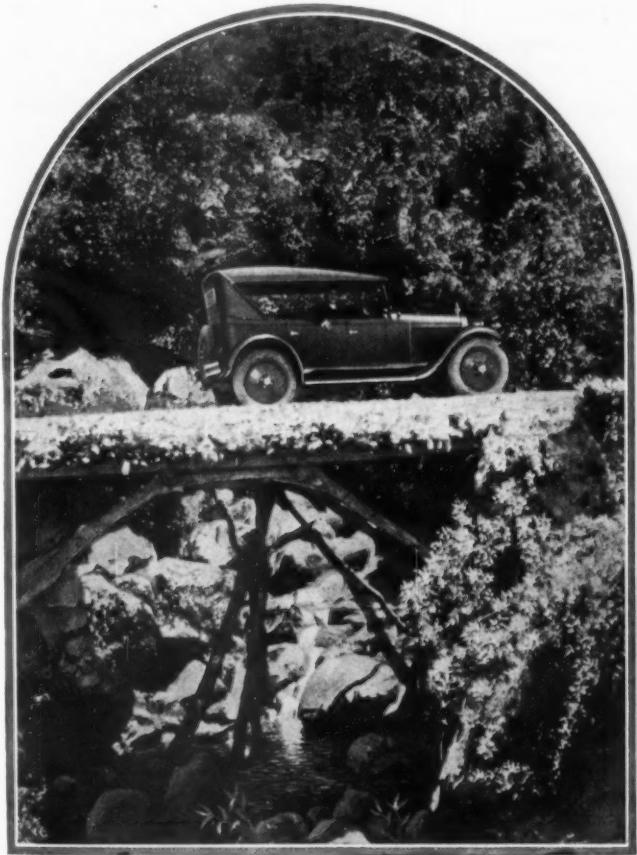
MOTOR ECHOES *in* PICTURE



THE LARGEST TIMKEN BEARING EVER BUILT. This is one of several made for Allis-Chalmers to be installed in mills for grinding Portland cement. But for the development of bearings for automobiles this use would never have been thought of



THE CHRYSLER VISITS PALMYRA and poses amid the ruins of the ancient city which tradition says was founded by Solomon. Once a factor in world trade it is seldom seen now especially by an automobile



GUESS WHO THIS IS! Anyone could tell by the squint and the masterly grasp of the wheel inherited directly from Daddy that it is none other than Tommy Milton, Jr. He is about to start Miss America V, the fastest boat afloat

THIS NASH LIGHT SIX IS UP IN THE AIR. At a height of 10,500 ft. above sea level it is climbing a 15 per cent grade on a bridge (some bridge) on the road from Bogota to Pacho, Columbia, South America

NEW DEVICES for SHOP and COUNTER

Apco Trouble Lamp

THE new Apco magnetic base trouble lamp No. 16 is equipped with a magnet in the base which, after the current has been turned on in the lamp, will hold it to any metal part of the car. It is equipped with 10 ft. of cord. It may be used as an emergency tail light by putting in the red jewel lens that is furnished with the device and placing the base of the lamp against the license plate or the back of the car. It is said that it will stick in place over the roughest roads. This device is made by the Apco Mfg. Co., Providence, R. I.

Draver Jack

A NEW jack that is permanently attached to the axle of the car is being manufactured by the Draver Mfg. Co., Richmond, Ind. This device is attached to the axle by a pair of U bolts and is always in place ready for use. A portable base 4 in. high and having a large foot is furnished with the jack. The base may be put in place with the jack handle.

Bonney No. 4 Wrench Kit

BONNEY No. 4 wrench kit is a sample kit containing three of the most popular sizes of the new right angle wrenches made by the Bonney Forge & Tool Works, Allentown, Pa. The complete kit sells for \$2.50. These wrenches are made of chrome vanadium steel and are guaranteed to strip the thread or break the bolt without damage to the wrench.

Lion Timer

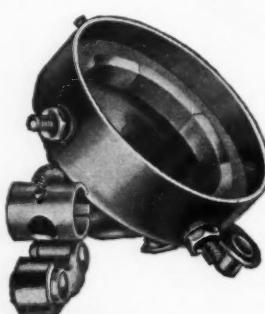
THE Lion Timer is a new addition to the line of timers manufactured by the Turner Mfg. Co., Kokomo, Ind. It operates by means of a roller and is accurately made and carefully inspected before leaving the factory. The manufacturers state that the price is competitive with the lower priced roller timers.



Bonney No. 4 Wrench Kit

Reliance Steering Control

THE Reliance steering control which is now offered for the Ford and Chevrolet cars, makes use of the shock absorber principle to check the shimmy of front wheels. Two friction disks connected to the steering arm and the tie rod are used. This device is manufactured by the Reliance Auto Devices, Danbury, Conn., and the price is \$2.50 a set.

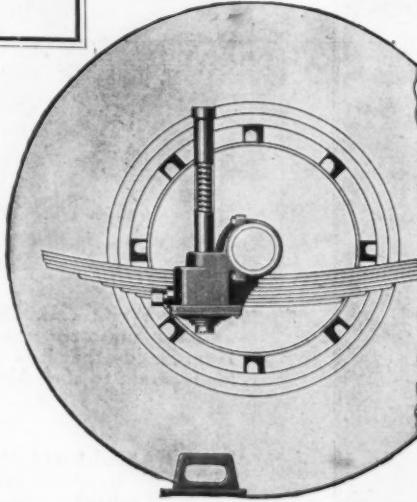


New Lion Timer



Apco Magnetic Base Trouble Lamp

Manley 5-ton High-Draulic Jack



Draver Automobile Jack

Blackhawk No. 2 Cabinet

BLACKHAWK Mfg. Co., Milwaukee, Wis., is offering to dealers a new assortment of tools in a cabinet known as No. 2. The cabinet is 19 $\frac{1}{4}$ in. high, 16 $\frac{1}{4}$ in. wide and 8 $\frac{3}{4}$ in. deep and made of steel. It contains an assortment of 88 tools with a list price of \$50. The contents include offset and T handles, double end handles, brace wrenches, ratchet wrenches, universal joints, valve grinder attachments, extension bars, hexagon sockets, square sockets and a number of other items. This is intended to give the dealer a comprehensive assortment of wrenches and tools in a convenient and attractive display cabinet.

Blackhawk Rim Wrench Display Stand

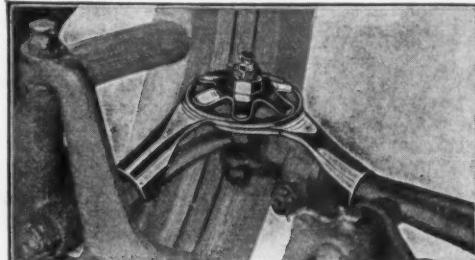
Another merchandising help offered by the Blackhawk Mfg. Co. is a three-color display stand which will hold one No. 5104 universal rim wrench.

Manley 5-ton High-Draulic Jack

DESIGNED especially for bus and truck work, the Manley 5-ton High-Draulic Jack is said to raise the heaviest commercial vehicles as easily as an ordinary passenger car can be raised with an ordinary jack. This new jack is built on the true bridge principle, having compression members at the top and tension members at the bottom. It operates by means of the hydraulic principle and has a capacity of 5 tons or more. It has roller bearing wheels and ball bearing casters. The price, equipped with steel wheels, is \$125. It may be had equipped with rubber tires for \$145. It is made by the Manley Mfg. Co., York, Pa.

AC Oil Filter

THE AC Spark Plug Co., Flint, Mich., is now marketing a complete AC oil filter installation for all cars not having this feature as original equipment. This unit retails for \$5.00 in the United States and \$7.00 in Canada.



Reliance Steering Control

DURANT BEHIND NEW GROUP

Star 6 to Be Nucleus of Consolidated Motors, Inc.

Plan Said to Contemplate Inclusion of Certain Independent Makers

NEW YORK, April 9.—W. C. Durant's announcement, in the form of advertisements published this week, served to allay to some extent the public curiosity regarding his current plans to further his automotive interests, but left several points for interesting discussion by the industry and trade. On these questions the Durant executives were silent while Mr. Durant himself, as hitherto, would add nothing to his formal statements.

The announcement told of Consolidated Motors, Inc., which "has for its object the bringing together of such independent motor companies as will be benefited by the arrangement." It is further set forth that the Star Six, new models of which were on display today, would be the nucleus around which Consolidated Motors, Inc., would be built, "exactly as the Buick in 1908 was used as the nucleus and keystone of the great General Motors." What independent companies are to be included is not stated.

Showing the greatest concern for the progress and prosperity of Star dealers, Mr. Durant lashed out at the "maliciously false statements," which he declares to have affected the credit of the companies producing the Star car, and to have frightened prospective dealers and customers when considering the product. He says: "I here and now pledge my entire personal fortune, guaranteeing not only the financial responsibility of these companies, but the stability of policies and the integrity of the management as well."

With the same objects in view, Mr. Durant described in general terms a financing plan which will no doubt provoke widespread discussion in the industry. He declares he has set aside a

(Continued on page 31)

Diana Prices Reduced

ST. LOUIS, April 11.—Substantial price reduction on Diana models have been announced by the Moon Motors Corporation. The body styles affected and the new and old prices follow:

| | Old Price | New Price |
|---------------------|-----------|-----------|
| 5-pass. phaeton | \$1775 | \$1595 |
| 5-pass. roadster | 1795 | 1645 |
| De luxe brougham | 1995 | 1695 |
| Palm Beach roadster | 1995 | 1795 |
| Cabriolet roadster | 2095 | 1995 |
| De luxe sedan | 2195 | 1995 |

Increased production is given as the reason for the reduction, together with the fact that the initial cost of introducing the Diana has been absorbed.

Two Marmon Appointments

INDIANAPOLIS, April 11.—W. T. Young, Jr., has been promoted to the position of assistant general sales director of the Marmon Motor Car Company, H. H. Brooks, general sales manager, announces. For the past year Mr. Young has been sales promotion manager of the company. At the same time Mr. Brooks announced the appointment of Ottis Lucas as sales promotion manager.

Trevellyan to Assist Blunden

CHICAGO, April 11.—Herbert A. Trevellyan has been selected assistant manager of the Chicago branch of Olds Motor Works, according to an announcement by L. J. Blunden, recently promoted to the management of the Chicago Branch. Mr. Trevellyan is a native of Chicago, has been in the automotive business since 1915 and for the past eight years has been selling Oldsmobiles.

Chandler Has Big Increase

CLEVELAND, April 9.—Chandler-Cleveland March sales showed a big increase over the same month a year ago. As a result the April production schedule calls for the manufacture of about 4,000 cars which will be a gain of nearly 1,500 over March.

New Models and Price Changes in MOTOR AGE Prices and Weights Tables April 14th

| Make | Model | Body Style | Old Price | New Price |
|----------|-------|--------------------|-----------|-----------|
| Moon | 6-60 | Royal Roadster | New Model | \$1195 |
| Moon | 6-60 | Royal Cab. R'dster | New Model | 1295 |
| Peerless | 6-60 | Roadster | New Model | 1295 |
| Peerless | 6-60 | Coupe Roadster | New Model | 1345 |
| Roamer | 8-78 | Roadster | New Model | 1495 |
| Roamer | 8-78 | Coupe | Not given | 1495 |
| Roamer | 8-78 | Sedan | Not given | 1795 |
| Star | 6 | Cabriolet | New Model | 915 |
| Star | 6 | Sport Coupe | \$975 | 950 |

Distributor System Is Adopted by Franklin Co.

Scope of New Plan Covers Various Helps for Benefit of Dealers

SYRACUSE, April 11.—Franklin Automobile Co. is organizing its merchandising system upon a distributor basis exclusively, the plan calling for 60 distributor points in the United States. Formerly the company has marketed its products mainly through dealers with direct connections with the factory and some few distributors.

Under the direction of F. B. Walker, general sales manager, it is planned to make the new system particularly advantageous to the smaller dealer. Forces of factory and distributor district representatives will be organized to visit dealers frequently to discuss problems and suggest means of meeting them. The distributor points will be located within reasonable distances of all smaller dealers so they may have access to the distributor stocks and showrooms in making sales.

The necessity of smaller dealers carrying extensive stocks thereby will be eliminated.

The company is also establishing a sales promotion to aid dealers and distributors in operating under tested selling methods, and with this will have a department of dealership operation and business control. One of the first activities of the sales promotion department will be to make a study of the used car situation and to devise ways of merchandising them. An accounting system best suited to Franklin dealer needs will be developed by the department of dealership operation.

The sales promotion department will be under the direction of M. C. Tetley, formerly district representative in New York state. C. G. Cuddy will develop the dealer accounting and control system. In addition to these men the factory sales organization will include Mr. Walker, John W. Lee, Jr., sales manager; Hugh H. Goodhart, advertising manager; F. J. Leyerle, service manager, and C. D. Holmes, traffic manager.

Nash Declares Dividend

KENOSHA, Wis., April 11.—Directors of the Nash Motors Company today declared a quarterly dividend of \$1 a share on the common stock payable May 2, 1927.

In a statement C. W. Nash, president, said that the company's dealers had a smaller stock on hand than a year ago.

Open Shop Policy Given Indorsement of N.A.C.C.

Resolution Answers Trade Queries for Attitude of Manufacturers

NEW YORK, April 9.—Taking a firm stand in favor of the open shop policy, members of the National Automobile Chamber of Commerce have adopted a resolution setting forth clearly what has always been the view of the industry on labor questions. The resolution is an answer to queries from the trade as to the industry's attitude. The text follows:

"1. We hereby declare our approval of the open shop plan, under which employment relations are established through voluntary exercise of the individual right of contract, and where every employee is required to work harmoniously with his fellow employees regardless of race, creed or trade union affiliation.

"2. Since the employer is responsible for the work turned out he must have full discretion to select the men he considers competent and to determine the number of apprentices and helpers to be employed. It is the duty of the management to provide every opportunity for improvement and advancement to the individual workman, according to his ability.

"3. Compensation may be hourly rate, premium or bonus system, piece work, flat rate or other equitable method best suited to obtain both the highest wages for the individual workman commensurate with his skill and efficiency and the best work at the lowest possible cost to the public. Upon his good will and fair treatment depend the success and prosperity of both employer and employees."

Balance Sheet Shows Earnings of About \$90,000,000 for Ford Last Year

BOSTON, April 9.—Earnings of approximately \$90,000,000 in 1926 by Ford Motor Co. were indicated by the annual balance sheet filed here with the Massachusetts Commissioner of Corporations. This compares with an approximate income of \$115,000,000 in 1925. Surplus account was increased to \$697,637,788, as of Dec. 31, 1926, from \$622,366,893 the year previous.

Inventories of the company were reduced from \$107,631,138 in 1925 to \$88,074,988, which is pointed to as indicating that the Ford company began reducing its parts stock in 1926 in preparation for a new model this year. That this inventory reduction has been carried much lower in the early months this year is generally accepted in the industry, so much so that the upbuilding of new stocks for the new car is now generally believed to be under way.

Pierce Arrow Lowers Prices

DETROIT, April 9.—Price reductions of from \$355 to \$500 on four models of the series "80" chassis have been announced by Pierce-Arrow Motor Car Co., as follows:

| Model | New Price | Old Price |
|------------------------|-----------|-----------|
| Standard Sedan | \$2895 | \$3250 |
| Two Door Brougham..... | 2495 | 2995 |
| 4-Passenger Coupe..... | 3250 | 3695 |
| Runabout | 2495 | 2895 |

With the present price reductions these models are now the lowest priced cars ever marketed by Pierce-Arrow Motor Car Co.

March Output 380,000

NEW YORK, April 9.—March production of cars and trucks in the United States and Canada is estimated at approximately 380,000 against 317,316 in February and 448,491 in March of 1926. Further gains are expected in April but the total will probably still remain under a year ago, due to the comparatively slow rate of Ford operations.

Hardiman Heads Company

NEW YORK, April 9.—F. M. Hardiman has been named president and general manager of the Harrison Radiator Corp., succeeding the late Herbert C. Harrison who died early in the year. Mr. Hardiman has had many years' service with the Harrison company advancing through several posts until about a year and a half ago he was made acting general manager.

To Represent Chevrolet

COLUMBUS, O., April 9.—H. C. Pepper and J. Edwin Jones have formed the Pepper-Jones Co., to distribute the Chevrolet line at 1174 East Main St. Both were formerly connected with the Curtain Motor Co. Modern equipment will be installed in the service station.

2,700,000 Families in Two-or-More Car Class

One-Automobile Stage Has Been Passed by 18 Per Cent of Groups

NEW YORK, April 9.—More than 2,700,000 owning - more - than - one - car families were found in the United States by the National Automobile Chamber of Commerce in its analysis of a survey by the General Federation of Women's Clubs and amplified by further survey of the Chamber. On the average it appears that 18 per cent of the families which own any cars own more than one and that ten per cent of all the families in the country have more than one car. Method of learning the number of two-car families in the country is as follows:

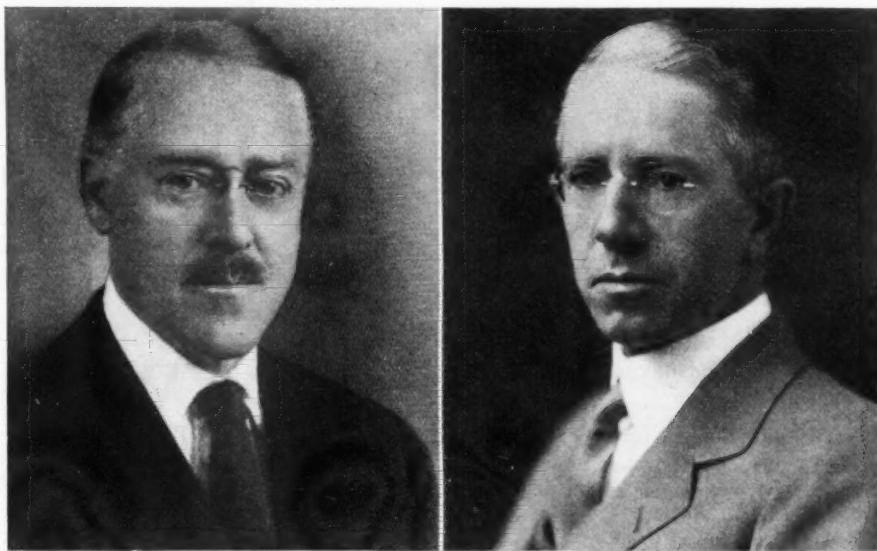
| | |
|--|------------|
| Total motor car registrations | 19,000,237 |
| Owned by business houses | 1,143,000 |
| Private family motor cars | 18,097,000 |
| Number of families in United States | 27,500,000 |
| Percentage of families owning motor cars..... | 55.7 |
| Number of families owning motor cars..... | 15,317,500 |
| Number of cars remaining after allotting one automobile per family | 2,779,500 |

The question arises as to whether the extra private motor cars are to be distributed to one more per family or whether the three and four car ownership is usual. Since the three or four car element is not considered in the grand total it is estimated that this number of extra cars represents a total of more than one automobile. This is a tremendous jump over the situation in 1920 when a tabulation of registration cars indicated that only twelve families out of every thousand motor owning families possessed more than one automobile.

Sees Betterment in South

INDIANAPOLIS, April 11.—C. A. Campbell, sales development manager of the Stutz Motor Car Company, has returned to the factory at Indianapolis from a month's trip through the south and southwestern territory. He visited Stutz distributors in Amarillo, Fort Worth, El Paso and San Antonio, Texas, Albuquerque, New Mexico, New Orleans and Memphis and reports business slowly recovering from the unfavorable cotton condition. "The south will come through surely enough," says Mr. Campbell. "The business state of mind down there is improving rapidly and the law of supply and demand and a brave outlook will re-establish a business in a wonderfully fertile territory."

Two Dealers Who Have Been Elected Members of the Board of Dodge Brothers, Incorporated



Left—Samuel S. Thornton, of the Thornton-Fuller Company, Philadelphia; right—C. Russel Dashiell, president Dashiell Motor Co., Chicago. Both are Dodge Brothers dealers and they recently were elected to the board of directors of Dodge Brothers, Inc., in pursuance with the corporation's policy to give the dealers direct representation on this body

Durant Behind New Production Group

(Continued from page 29)

revolving fund for financing the sale of Star cars on what he calls approved acceptance contracts, on which the purchaser is to be charged merely interest on deferred payments at the rate of six percent annually—"all other charges, including fire and theft insurance, to be borne by me." He says further:

"In the interest of Star dealers my plan further contemplates setting aside for their benefit a considerable block of Durant Motors, Inc., stock purchased in the open market, the profits on this stock computed at the end of each year to be distributed to Star dealers based upon prearranged schedules and results obtained. There is to be no money investment or obligation on the part of the dealer under this arrangement."

As evidence of his determination to make all other interests secondary to the automotive business, Mr. Durant announced his resignation from the directorates of a number of non-automotive concerns, among which were Liberty National Bank, Petroleum Heat and Fuel Co., Loew's, Inc., American Safety Razor Co., Independent Oil & Gas Co. and others. His object in the whole program, he says, is that "the name Durant shall stand for something better than a football in Wall Street."

Consolidated Motors, Inc., was incorporated under the laws of Delaware, the application having been filed on March 29 at Dover by Prentice-Hall, Inc., the incorporators being William Walstad, T. S. Kemp and V. M. Presher. The company's capital will consist of 1000 shares of no par stock. In the

financial district it was assumed that Mr. Durant had in mind the enlargement of the share capital as his plans progress.

Sales Improving Weekly

NEW YORK, April 13.—Reports from practically every important automobile producing company continue to show increased shipments. There is every indication that seasonal sales are holding up strongly and are improving from week to week. Under the influence of this activity dealer stocks are holding sound levels.

That the industry has not reached a volume equal to last year at this season is due almost entirely to reduced demand for Ford cars and one or two other normally large producers.

Despite this condition the industry in March produced within 15 per cent of its total in March last year when nearly all factories were at capacity. April is almost certain to show further gains.

Sales by producers in the higher priced lines show general increases over last year's business. To some extent this has been influenced by price reductions. The generally well balanced division of buying in the medium priced fields continue to hold these prices firm.

Mullins Declares Dividend

CLEVELAND, April 9.—The Mullins Body Corporation with plant at Salem, O., declared a two per cent quarterly dividend on preferred stock payable May 1 to stock of record April 18. It is understood that the company earned after all charges but before taxes, \$60,000 in March and \$150,000 for the quarter after charges and before taxes.

Zens to Direct Sales Department for Jordan

Former Secretary Treasurer Is Given the Title of Vice-President

CLEVELAND, April 9.—Paul Zens, formerly secretary-treasurer of the Jordan Motor Car Company, has been appointed vice-president in charge of sales. He was associated with Edward S. Jordan in the organization of the Jordan company in January, 1916. They had previously worked together at the Jeffery Motor Car Company, Kenosha, Wisconsin, where Mr. Zens had started as office boy and had been graduated to the purchasing agent's desk. In his new post he will have charge of the Jordan sales department.

W. B. Riley, formerly sales manager, has been named secretary of the company.

These organization changes have been announced following the recent annual meeting. The other officers are: President, Edward S. Jordan; vice-president, Charles L. Bradley; treasurer, F. G. Tyler.

To Prepare for Legislature

ATLANTA, Ga., April 9.—The Atlanta Automobile Association, membership of which includes a majority of the firms engaged in all branches of the automotive business in the Atlanta and adjacent suburban territory, plans the early appointment of a legislative committee to look after the interests of the automobile business in Georgia when the Georgia state legislature convenes in June for its regular bi-annual session.

Information is given to the effect that the legislative body is preparing at this session to introduce a number of new bills directly or indirectly affecting the automobile business in the state.

30 Dealers at Conference

DES MOINES, Ia., April 9.—Thirty Willys-Overland dealers and sales representatives from the seven counties in the central Iowa district attended a sales conference here conducted by M. M. Hamilton, manager of the district, which is under supervision of W. S. Black, district representative. The Des Moines district sales this quarter are running far ahead of the 1926 record, district officials reported and predicted a record year. Speakers were D. F. Goodard, sales promotion manager; E. G. Jameson, wholesale manager, and H. E. Clark, parts sales manager.

Gardner Dealer Holds Salon

KANSAS CITY, April 9.—The Gardner Motor Sales Co., Inc., has been holding a salon showing of the Gardner line. The company, a new organization here, reports unusual interest in the Gardner line. F. S. Dey is manager.

Southern Trade Shows Progress in Construction

Automotive Building for First Quarter in Dixie Put at \$8,000,000

ATLANTA, Ga., April 9.—Although automotive sales conditions in the southern territory have been more or less unsatisfactory since the first of the year, with the first quarter showing somewhat of a decline compared with sales during the first quarter of 1926, from a development and construction standpoint the industry is showing steady progress, with total figures from January to March inclusive the largest they have been since the peak period following the war, particularly in the construction of independent garage plants and of sales and service buildings by dealer organizations.

In the automobile dealer field alone, including agency firms only, there were approximately 70 construction projects in the southern states the first quarter of this year, mostly of new sales and service buildings. Definite figures on the total investment made are not available, but as 23 of these projects entailed an investment of \$1,500,000, taking this figure as a basis the total amount would probably be somewhere around \$4,500,000.

Other construction in the automotive field aside from dealer firms shows approximately 160 projects the first three months, costs of 40 of these amounting to approximately \$1,000,000, and taking this figure as a basis the total would probably be around \$4,000,000, making a total of more than \$8,000,000 invested in automotive construction in the 16 southern states the first three months of this year.

New Hare & Chase Plan

PHILADELPHIA, April 5.—Under the new plan of Hare & Chase, Inc., the company will confine its operations to the sector included in the triangle bordered by Boston, Chicago and Washington and the territory contiguous to those cities. Zone offices will be maintained in these three cities and in New York, Newark, Cleveland, Philadelphia and Detroit.

The company will operate under a system of centralized control with a large group of district offices operating under the zone offices. The company will continue more than half of its former district offices, thereby maintaining the same local credit and collection service that it employed in the past. The company will extend a new dealer finance plan to all of its territory in the near future, the plan having been found highly successful in several cities in which it has been used. Important factors of safety are set up under the plan to overcome difficulties which have

Headlight Law Violations Start Government On New Illumination Experiments

WASHINGTON, April 9.—Prevailing disregard of automobile headlight regulations in the United States has caused the U. S. Bureau of Standards to renew its tests and experiments with headlight illumination.

Two cars with four headlight lamps each are being used for the experiments at the Bureau and 15 of the four-lamp equipments have been distributed by the American Society of Automotive Engineers and the Society of Illuminating Engineers to automobile and headlight

manufacturers for cooperative experiments.

After the tests a conference will be held this spring to permit an exchange of views and conclusions. The object sought is the combination of a safe, comfortable driving light from the standpoint of the driver with a minimum of inconvenience to the approaching driver. The tests so far show that accidents at night are more common from inadequate lights than from the so-called glare.

faced dealers and finance companies in the past.

Output Record for Chevrolet

DETROIT, April 9.—A new production record was hung up by the Chevrolet Motor Co., in March, when 107,900 automobiles were produced. A new one-day record was also hung up on March 31, when 5,075 Chevrolets rolled off the assembly lines.

The month's production exceeded that of March, 1926, by 42,733, a gain of 65.6 per cent. It also exceeded March of 1925 by 64,404 cars, an increase of 148.1 per cent.

Chevrolet production for the first quarter of 1927 totaled 267,393 automobiles, exceeding the first quarter of 1926 by 104,486 cars, a gain of 64.1 per cent. The increase also represents a gain of 197.5 per cent over the first quarter of 1925.

Reorganizing Body Company

MOLINE, Ill., April 9.—Reorganization of the E. H. Wilson Manufacturing company, makers of auto bodies, is well under way and it is expected that the concern will be relieved of its receivership by June 1, L. L. Harr, receiver, announced this week.

With orders amounting to \$2,500,000 on hand, and the plant showing a profitable operating income the last month, production is now progressing at the rate of two carloads of bodies a day.

SEGRAVE'S 5 KILOMETER RECORD

Through an error the official record for the five kilometers established by Maj. H. O. D. Segrave in the Sunbeam Special March 29 at Daytona Beach, Fla., was erroneously stated in the April 7 issue of *MOTOR AGE*. The correct average time for the five kilometers both ways was 56.47 second, or 198.0637 m.p.h. These are the figures officially announced by the judges. Other records were correctly published in the April 7 issue of *MOTOR AGE* in the first comprehensive and authoritative report of the event written especially for the automotive business man.

NEW Automotive Literature

SPRAY PAINTING THE AUTOMOBILE. An interesting booklet describing the refinishing of automobiles by means of sprayed lacquer has been issued by the Brunner Mfg. Co., Utica, N. Y. This booklet describes the advantages of lacquer paint and the methods of applying it. Space is given also to a description of the layout and equipment of the refinishing shop or booth. A complete illustrated catalog of the Brunner equipment for spraying lacquer is a part of the booklet.

SMITH'S WELDING & CUTTING EQUIPMENT. A little booklet just issued by the Smith Welding Equipment Corp., Minneapolis, Minn., illustrates and describes the extensive assortment of garage welding equipment manufactured by this company.

Completing Plant Extensions

DETROIT, April 9.—Extensive plant extensions which the E. I. du Pont de Nemours Co. have been making at Flint, are nearing completion and the company expects to be in operation in the new buildings by April 15.

The company enjoyed the greatest month in its history in March, when the output exceeded that of the corresponding period a year ago by 80 per cent at the Flint plant. Employment is also 25 per cent greater than at any other time.

Signs Reciprocity Motor Law

MINNEAPOLIS, April 9.—Governor Theodore Christianson of Minnesota has signed the reciprocity law by which automobiles and trucks may be operated from other states and Canada provided similar legislation is passed by them. Sworn data must be filed with the secretary of state, who is registrar of motor cars in Minnesota. They must display insignia of their home states and operators must conform to Minnesota highway and traffic regulations.

They Were the Three Best Salesmen on Floor of Los Angeles Show, Says Committee of Judges



Left to right: Frank P. Bawden, Lincoln salesman, winner of first prize; Harry L. Kirksey, Marmon salesman, winner of second prize; W. F. R. Eifler, Stutz salesman, winner of third prize. A committee judged these men the most effective salesmen in the Los Angeles Metropolitan area.

LOS ANGELES, April 11.—The distinction of being the "most efficient salesman in the Los Angeles metropolitan area" has been awarded to Frank P. Bawden, salesman with Stephen S. Nerney, Lincoln dealer in Hollywood. Harry L. Kirksey, member of the sales force of the Pelton Motor Car Company, Marmon distributors, holds the second rating, and W. F. R. Eifler, salesman with Lynn C. Buxton, Stutz distributors, occupies the third position.

Selections were made by the Better Business Bureau of Los Angeles from reports of a committee of nearly 15 men, representing various lines of business in Los Angeles not associated with the automotive industry. Choice was confined to the nearly 100 salesmen who were on duty at the recent Los Angeles Automobile Show. Each salesman was required to wear a button displaying his name.

The first prize to Mr. Bawden was a trip to the Lincoln factory with all

expenses paid; second prize to Mr. Kirksey, a gold watch and chain; and third prize to Mr. Eifler, a solid gold pen and pencil.

Members of the selecting committee started to "shop the show" on opening afternoon and continued through all hours of the day and night exhibition until the event closed. Each committeeman was given a questionnaire to fill out after interviewing salesmen. The committeemen entered the show as though to buy a car. They visited all makes of machines, and allowed themselves to be "sold" by the different salesmen.

Mr. Bawden has been in the automobile business about 20 years, starting in Washington with the Stevens-Duryea agency, and then took over the Pierce-Arrow and Franklin lines. In 1919 he was traveling representative for Durant interests in the Northwest. Later he was with Cadillac in San Diego.

Add Star Six Cabriolet

NEW YORK, April 9.—Durant Motors, Inc., has added a four-passenger cabriolet model on the Star six chassis, priced at \$915. Equipment includes front and rear bumpers and shock absorbers.

To Distribute Auburn

BOSTON, April 9.—F. A. Hinchcliffe, owner of the Hinchcliffe Motor Company, who has been New England distributor of the Jordan car ever since it was placed on the market, announced that he has taken over the Auburn for the New England territory. He will handle Auburn at retail in Boston also. Mr. Hinchcliffe still represents Jordan.

Exports Down, Output Larger

WASHINGTON, April 9.—Canadian automobile exports during February decreased sharply while production showed a material increase, it was an-

nounced here by the U. S. Department of Commerce.

Shipments of passenger cars from Canada during February totaled 3597, as compared with 5296 in January and 5936 in February, 1926. Exports of trucks amounted to 1711, as against 2170 in January and 2472 in February, 1926.

Production increased from 15,376 units in January to 18,655 in February, of which 13,421 were passenger cars, 3325 trucks, and 1911 chassis of both types.

Set Dates for 1928 Show

DES MOINES, Ia., April 9.—The Des Moines Automotive Dealers association has announced dates for the 19th annual automobile show in the Coliseum, Feb. 12-19, 1928. Dean Schooler, president of the association, and C. G. VanVliet, secretary, who managed the 1927 show, have been named show managers for the 1928 display.

Coupe Has Best Gain in Region for Chevrolets

Makes Larger Increases on Pacific Slope Than Any Other Model

SAN FRANCISCO, Cal., April 9.—Chevrolet Motor Company sales executives, led by R. H. Grant, vice-president and general sales manager, recently held the third of a scheduled series of Pacific slope meetings in San Francisco.

One of the most interesting points brought out at the local meeting was that in Pacific slope territory records show coupe sales to have had the greatest increase in the past year of any model.

The first meeting was held in Salt Lake City and the second in Portland, Ore. From San Francisco, the group of executives went to Los Angeles, where the twenty-first, and culminating, conference of the national trip was held. H. J. Klingler, assistant general sales manager, and E. W. Fuhr, Pacific coast regional sales-manager, whose territory includes the Salt Lake, Portland, Butte, San Francisco and Los Angeles zones, were the principal speakers.

Ford Slump Lowers Total

CLEVELAND, April 9.—Reports on automotive business from Cleveland dealers and manufacturers indicate the conservative forecast made at the beginning of 1927, predicting lower sales marks, are a bit out of line. There were filed in March 3049 bills of sale for new cars at the county clerk's office. This is in comparison with 3565 bills of sale filed during the corresponding period in 1926. Offhand it would appear business had suffered generally. This is not so. Perhaps it can be more easily understood when Ford figures are taken into consideration. Ford dealers sold 1169 cars in March, 1926, against 433 cars in March, 1927. The difference indicated more than makes up the margin of decrease outlined in the total report. In March, 1927, 11,151 cars were sold. The extent of the jump in this market is considerable when the figures of former years are taken into consideration. In March, 1924, 5622 cars were sold, and in the same period in 1925, 6169 cars were sold.

Car Sales Increase

PHILADELPHIA, April 9.—Sales of new cars at retail in the Philadelphia district showed an increase of 45.7 per cent in February over January and of 62.5 per cent over February, last year. Stocks of new cars were 14.8 per cent higher than in January, owing to increased shipments. Used car sales increased 72.2 per cent over January and 83.1 per cent over February, 1926, with an increase in stocks of 7.9 per cent over January and of 27 per cent over a year ago.

Ford Commissary Stores To Be Closed to Public

Company Plans Continuance of Enterprise for Its Employees Only

DETROIT, April 9.—Henry Ford has agreed to close his commissary stores to the general public, which he has been operating in the various factories of the Ford Motor Co., as a result of wide-spread protests from merchants from all over Michigan. The decision was announced at a meeting held in Hotel Statler when 1000 retailers representing the 3000 members of the Michigan Retail Merchants' Association, gathered to air their views. The announcement, made by an official representative of the Ford company, threw the meeting into a demonstration of approval.

While the Ford company was scathingly criticized by the merchants, it was brought out that Ford, last year, sold \$12,000,000 worth of supplies in his stores at a profit of 3½ per cent, or \$400,000. The company will continue to operate the commissaries, but they will be limited to Ford employees only.

Besides appeasing the attitude of Michigan merchants, the action is expected to more or less satisfy merchants all over the United States, who, in recent weeks are reported to have asserted strong resentment against Ford's merchandising enterprise. In many instances the resentment is said to have gone so far as to cause merchants to consider using cars, other than of Ford make, in their business.

Mr. Ford's decision was announced to the retailers by G. N. Staples, manager of the Ford commissaries, after he had defended the system as it applied to the Ford employees and to the general public.

"But we are going to close it to the public," he said, "because the business has grown too big for us to handle." He continued that the company hopes to work out a scheme in a few days whereby sales will be confined to Ford employees only.

Hupp Dealers at Luncheon

KANSAS CITY, Mo., April 9.—About 50 Hupmobile dealers in this territory attended a luncheon meeting held here recently at the Kansas City Club, to meet Frederick Dickinson of Detroit, advertising manager and assistant director of the Hupp Motor Car Corporation.

In the course of his address at the meeting, Mr. Dickinson made very favorable comment upon the results his company has derived from its programs of newspaper advertising, and said that the program for 1928 is to include the company's largest annual program of newspaper advertising.

Hostilities Affect Sales

NEW YORK, April 9.—Automotive business is at a standstill in the parts of China immediately affected by the current hostilities, but China was never an important market for exports and the volume of overseas trade is not perceptibly curtailed, according to leading export firms here. Shipments of cars and trucks held up for a while surprisingly well, as the armies made some purchases and some wealthy Chinese who fled from the scenes of hostilities also bought cars. These purchases have now practically ceased and there has been a slowing up in China generally.

Former School Teacher Falcon Distributor



C. C. Rossell

Numbers of successful automobile merchants have been recruited from the ranks of successful school teachers and such was the earlier experience of C. C. Rossell, heading the Rossell-Knight Company, Syracuse, N. Y., which has the franchise to distribute the new Falcon-Knight in Central and Northern New York state. Mr. Rossell left the school room in 1924 to become a dealer in Ford and Overland cars at Warren, Pa., in a partnership known as Rossell & Spencer. Mr. Rossell and a brother late that year took over the business as Rossell Brothers. In 1917 a separate company was organized as the Overland Warren Co. which took over the Overland and Willys-Knight franchise, Mr. Rossell being secretary of the company. In 1922 he disposed of his Warren interests and became secretary-treasurer of the Overland-Knight Motors, Inc., at Syracuse, resigning to launch the Rossell-Knight Co., with the Falcon-Knight distributorship contract.

Complete Last Draft of Proposed Brakes Code

Regulations Outlined Are Intended as Tentative Standard for U.S.

WASHINGTON, April 9.—The final draft of a proposed safety code for automobile brakes and brake testing, designed as a standard for enforcement by states, municipalities and local authorities, was made public here by H. H. Allen, of the U. S. Bureau of Standards. The code now requires only ratification of the American Engineering Standards Committee to become the tentative standard for the nation and this ratification is expected soon. The code was sponsored by the Bureau of Standards and the American Automobile Association.

The Bureau of Standards will calibrate testing equipment for state and municipal authorities and will referee methods of tests if necessary, in conformity with the code. The code would require all vehicles to be equipped with independently operated brakes (two means of operation), except as to electric trucks purchased prior to adoption of the code, and motorcycles.

Provision is made for electrical brakes. At least one hand brake is required capable at all times of restraining the vehicle. Automobiles weighing under 6000 pounds and passenger buses of any weight are required to have foot brakes capable of stopping the car within 50 feet from a 20-mile speed. For vehicles above that weight two brakes must be provided, either of which would stop the machine within 75 feet at a 20-mile speed and both of which in combination will stop it in 50 feet.

After ratification of the code complete information will be made available by the American Engineering Standards Committee, through the secretary, Dr. P. G. Agnew, 29 West 39th St., New York City.

Murphy Heads Kelly Co.

NEW YORK, April 9.—Edward M. P. Murphy was elected president of the Kelly-Springfield Truck & Bus Corp. of Springfield, Ohio, at a recent meeting of directors here. Mr. Murphy, who is president of Edward M. P. Murphy, Inc., specialist in the management of industrial enterprises, succeeds H. E. Zimmerman, president of the Selden Truck Corp., as head of the Kelly company.

Comprehensive plans for future operations are being prepared by the new management. V. D. Inman, vice-president of the Murphy company, has been named president and general manager of the Kelly company and will take up his residence in Springfield shortly. F. L. McCarty, another vice-president of the Murphy company, is assisting in the reorganization.

Stiff Jolt for Low Priced American Cars Seen in Pending French Tariff Measure

PARIS, March 27.—(By Mail)—A fatal blow will be struck at the importation of low priced American automobiles if the French tariff bill, expected to come up for discussion in the Chamber very shortly, is passed without amendment. This bill provides for the continuance of the present 45 per cent ad valorem duty or for specific duties based on weight, the higher of the two being applied.

Officials of the Ford company here state that the new specific duties which apply both to complete cars and to parts, will be equivalent to an imposition of 125 per cent. One of the leading American concerns states that the duty on its models will vary from 90 to 138 per cent of their value. Careful examination of the proposed law shows that the tariff will be prohibitive on cheaper

cars, but will make little change on more costly models.

Badly as automobiles are hit, the tariff is still higher on electrical parts. On automobile tires the duty will be roughly 50 per cent.

Automobile parts are assessed on the same basis as complete cars, thus making it impossible to get any relief by bringing in parts for assembly. The tariff devotes four pages to automobile parts only and includes 50 different items. It should be noted that America gets the benefit of the minimum tariff, the general tariff being three times higher than the figures quoted above.

So adversely are all American goods affected by the new tariff act that the American Chamber of Commerce in Paris is taking action to bring representations before the French government.

New A. C. F. Coach

DETROIT, April 9.—The American Car & Foundry Company has just added a new body model to its 230 in. wheel-base mechanical drive chassis line. This model designated as a Newell type, while frequently found out west, has not until now been introduced in the east. The A. C. F. model has a seating capacity for 29 passengers and it is characterized by a raised observation section at the rear of the body beneath which is a baggage compartment of about 85 cu. ft. capacity occupying about one third of the floor space of the coach. To reduce the weight of the overhang at the rear, the gasoline tank and spare tire are carried in front of the rear axle. Entrance to the observation section is through the front part of the coach, a stairway being provided between the rear seats of the coach proper.

This model is adapted chiefly for long cross country runs. About 25 of these are being built by American Car & Foundry Co.

Hupp Stepped Up in March

DETROIT, April 8.—Factory shipments of the Hupp Motor Car Corporation in March were 4959 eights and sixes, exceeding February shipments by more than 800. The February shipments totaled 4106 cars, setting a new record for that month for Hupmobile. March shipments compare with 4732 cars in March, 1926, and 3733 in March, 1925.

According to R. S. Cole, general sales manager, the Hupmobile organization, distributors and dealers are confident that 1927 will be the greatest year in Hupmobile history.

The last week of March saw the company establish two new records when 392 cars were shipped in a single day and 1453 in a week.

Studebaker's Production 30,000 in First Quarter

Company Expects to Market 50,000 Erskines Before Close of the Year

NEW YORK, April 9.—Records of the Studebaker Corp. were broken in March with a shipment of 17,236 cars against 15,656, the previous record made in March, 1923, President A. R. Erskine said at the annual meeting of the corporation.

For the first quarter of the year production totaled 30,000 cars, but the company's profits, while substantially in excess of dividend requirements, were below the level of the corresponding period a year ago, due to poor business during the first six weeks. Mr. Erskine added, however, that this falling off in profits should be recouped in the second quarter.

The April production schedule calls for 19,000 cars against 11,000 a year ago.

Mr. Erskine said the company expected to sell 50,000 Erskine Sixes this year. During the first quarter 7427 Erskines were produced and 3759 of them were exported to 65 different foreign countries.

President Erskine told the stockholders he expected this year to be the best the company has ever had, both in volume of sales and profits. He based his statements upon his belief that the Erskine Sixes would substantially augment the company's earning power and development of the Studebaker "S" six line has further strengthened the company's position.

Mr. Erskine added that a week from Sunday the corporation would make an announcement of extreme interest to shareholders but he declined to go into details of the announcement at this time.

Manages Ford Houston Branch

HOUSTON, Texas, April 9.—C. W. Schwab, formerly assistant branch manager for the Ford Motor company at New York City, Philadelphia and Charlotte, N. C., has been made manager of the branch of the Ford Company at Houston, Texas. He succeeds R. S. Abbott, who has been promoted to supervisor for the Ford Company at Philadelphia.

Has Falcon in Toledo Area

TOLEDO, April 9.—The Knight Motor Sales company, of which J. I. Boldman will be manager, has been appointed distributor for the Falcon-Knight in Toledo and adjoining territory. Dealers are being appointed in nearby towns.

Mr. Boldman is well-known in automotive circles in Toledo and was formerly associated with the Grand Motor Sales company here handling several lines of cars.

Peerless Plans New Car To Be Listed at \$1295

President Ver Linden Tells Stockholders Outlook For Year Is Good

CLEVELAND, April 9.—Peerless Motor Car Corp. will soon announce a new car to sell at \$1295, which will vastly increase its sales opportunity as well as its production schedule, according to a statement by Edward Ver Linden, president, at the annual meeting this week. The outlook is exceedingly bright for 1927, he said.

Net profit for 1926 amounted to \$919,883 or \$3.55 a share. This amount represents the net profit after charges in the amount of \$195,776.85 for tools, dies and fixtures for current models of cars, including development expense of the Model 90, which was brought out during the year and Model 60, which is now in production. Net sales for the year amounted to \$19,301,301, as compared with \$17,352,539.94 for the year ended Dec. 31, 1925.

The financial statement showed increase of \$1,699,922.90 in net current assets as of Dec. 31, 1926, compared with Dec. 31, 1925. The ratio of current assets to current liabilities increased from 4 to 1 to 11 to 1.

The following were re-elected as directors: W. R. Angell, R. M. Calfee, George A. Coulton, L. R. German, Chas. H. Larson, H. C. Robinson, Victor W. Sincere, C. E. Sullivan, H. A. Tremaine, F. A. Trester, Chas. H. Tucker, Edward Ver Linden and L. J. Wolf.

Moskovics to Talk

INDIANAPOLIS, April 11.—F. E. Moskovics, president of the Stutz Motor Car Company of America, Inc., is scheduled to speak before the Illinois Manufacturers' Association at the Palmer House in Chicago on the evening of April 26th on the subject of "The Economics of the Motor Car."

Mr. Moskovics will dwell upon what the automobile as an industry and the automobile as a psychological unit of transportation has meant to American business and the American public.

400 at Convention

PORLAND, Ore., April 9.—Approximately 400 Pacific northwest Chevrolet dealers attended the annual factory convention here, which was held at the Hippodrome theatre. The factory party in attendance to address the dealers included R. H. Grant, vice-president; H. J. Klinger, assistant general sales manager; Sidney Corbett, manager of the truck fleet; R. K. White, national sales promotion manager; W. G. Lewellen, assistant sales promotion manager; W. A. Blees, manager of certified divis-

Quick Centralization of Automobile Theft Reports Is Purpose of California Bill

SACRAMENTO, Cal., April 9.—Making the traffic in stolen cars more difficult, the California state legislature has before it an amendment to the Motor Vehicle Act which provides for centralization in the office of the state division of motor vehicles of all automobile theft reports immediately after they are made to the police departments of all the cities of the state.

The amendment provides that police departments, county sheriffs and other peace officers, in receipt of a report of an automobile theft shall report such theft to the department of motor vehicles. If the car is not recovered within a week, a second report is made.

ion; J. P. Little, manager of parts and service division; W. H. Grower, regional organization manager; E. W. Fuhr, of Oakland, Pacific Coast regional sales manager. Also Mr. Ewald of the Campbell-Ewald Advertising Company.

Howard Heads Buick Group

SAN FRANCISCO, Cal., April 11.—The Buick Pioneers, meeting recently in San Francisco, elected C. S. Howard, president of the Howard Automobile Company, Buick distributors for California, as head of this organization of old-time dealers in Buicks. Mr. Howard has been handling this car for 22 years, and succeeds an even older distributor, H. E. Pence, of Minneapolis, the first president. After meeting in San Francisco, the Pioneers paid a brief visit to Los Angeles.

Association for Portsmouth

PORTSMOUTH, O., April 11.—The preliminary organization of the Portsmouth Automobile Dealers' Association was formed at a recent meeting when John F. Taylor, Ford dealer, was named temporary chairman. A committee was selected to prepare a constitution and by-laws and lay out a plan for revamping the former association, which has been dormant. The committee consists of John F. Taylor, F. Howell and A. Liebelt. A. C. Faeh, secretary of the Ohio Council, National Automobile Dealers' Association, aided in the organization.

Use Cadmium for Plating

DETROIT, April 9.—Cadmium is now being used for plating all external bolts, nuts, washers and screws on Oldsmobile cars. Cadmium, a malleable white, ductile metal derived from Creenockite, a comparatively rare mineral, is corrosion proof and being fairly soft it does not crack when bolts or screws are tightened by hard, sharp tools. Due to its softness, however, cadmium cannot take the place of chromium plating which at present is applied to Oldsmobile radiators and bumpers.

From these reports, the department is to compile a weekly stolen-car record, against which engine and serial numbers are checked before transfer of registration, or new registration of any car will be permitted.

Buyers of used cars and used car dealers will be better protected by this bill, which has the united support of members of the legislature, while state and city authorities will be better able to apprehend car thieves.

The measure is sponsored by the California State Automobile Association and by the dealers' organizations of all cities in the state.

Business Conditions

Department of Commerce Gives View of Current Situation

The dollar volume of trade for the week ending April 2, as measured by check payments, was smaller than in either the preceding week or the corresponding week of 1926, according to the weekly statement of the Department of Commerce. Wholesale prices showed practically no change from the previous week but were substantially lower than in the corresponding week of the preceding year. Loans and discounts of federal reserve member banks receded slightly from the previous week but were still well above the corresponding week of 1926. Interest rates on time money, though showing no change from the preceding week, averaged lower than a year ago. Bond prices showed gains over both the preceding week and the corresponding week of 1926. Interest rates on call loans averaged higher than in the preceding week but were lower than in the same week of the previous year. Prices of stocks on the New York Stock Exchange, although showing no appreciable change from the preceding week, were substantially higher than in the corresponding week of the previous year.

Loans to brokers and dealers secured by stocks and bonds, made by federal reserve member banks in New York City, were larger at the end of March than at the same time a year earlier. Although the federal reserve ratio declined from the preceding week, it was considerably higher than a year ago. Bills discounted by federal reserve banks were smaller than in the preceding week or the corresponding week of 1926. Building contracts awarded during the last week of March, although smaller than during the previous week, were greater than a year ago. Business failures were more numerous than in either the previous week or the same week of the previous year.

Dealer's Right to Seized Car Is Denied by Court

Interesting Case Involving Vehicle's Confiscation Lost by Tradesman

WASHINGTON, April 9.—Return of a motor vehicle seized by prohibition agents from a purchaser under a conditional sales contract to the original owners, the motor company making the sale, was denied by the District Court of Idaho the U. S. Department of Justice has been informed.

The defendant was convicted for violation of the law against transporting liquor and the car was confiscated although it had been sold to him under a contract providing that the title to the car should not pass to the purchaser until payment in full had been made.

Default was made by the convicted purchaser in the sum of \$548.65 and the intervenor, the Tom Poole Motor Co., petitioned for an order requiring the United States marshal to return the car to it upon the payment of the costs and expenses of storage connected with the seizure.

This petition was denied by the court, which stated in its decision: "The evidence was that a police officer notified one of the intervenor's salesmen, after the car was sold and before the arrest, that defendant was a bootlegger and that he might lose his car, whereupon such salesman replied, 'For God's sake lay off him until he gets the car paid for.'"

The court ruled that this notice to the intervenor imposed upon him the duty, if he desired to protect his property, to repossess the car, which he had a right to do under his title note.

Stutz After Stevens Trophy

INDIANAPOLIS, Ind., April 11.—Three Safety Stutz stock closed cars will be started in the first 24 hour test for the Stevens trophy on the Indianapolis Motor Speedway on April 21. Hardly had the deed of gift between the donor of the trophy, Samuel B. Stevens, of Rome, New York, veteran automobile driver and millionaire automotive enthusiast, and the Indianapolis speedway officials been executed than F. E. Moskovics formally challenged on behalf of the Stutz Motor Car Co., of which he is president. President Moskovics plans to start a standard stock Safety Stutz sedan with regular composite body, another standard Safety Stutz with Weymann body and a black Hawk type of Safety Stutz touring car which by the terms of the deed cannot compete but will act as pacemaker or trial horse for its garage mates.

To be entitled to the possession of

Coming Motor Events

Automobile Shows

| | |
|--------------------|-------------------|
| Green Bay, Wis. | Aug. 29-Sept. 2 |
| | Auto Building |
| Rocky Mount, N. C. | April 4-8 |
| | Tobacco Warehouse |

Races

A. A. A.

| | |
|------------------|----------|
| Altoona, Pa. | June 11 |
| Altoona, Pa. | Sept. 5 |
| Atlantic City | May 7 |
| Atlantic City | Sept. 24 |
| Charlotte, N. C. | July 11 |
| Detroit | Sept. 10 |
| Indianapolis | May 20 |
| Los Angeles | Nov. 27 |
| Salem, N. H. | June 25 |
| Salem, N. H. | Oct. 12 |
| Syracuse, N. Y. | Sept. 3 |

Conventions

| | |
|--|----------------|
| American Automobile Association, Annual Meeting, Ritz-Carlton Hotel, Philadelphia | June 16-17 |
| Associated Automotive Engine Re-builders, Hotel Winton, Cleveland | May 26-28 |
| Automotive Equipment Association, Summer Convention, Multnomah Hotel, Portland, Ore. | June 27-July 2 |
| National Association of Automobile Show and Association Managers, Drake Hotel, Chicago | July 26-27 |
| National Automobile Chamber of Commerce, Annual Meeting, New York | June 2 |
| National Highway Traffic Association, Automobile Club of America, New York | April 15 |
| North Carolina Automotive Trade Association, Morehead Villa, Moorehead City, N. C. | August 15-16 |
| Texas Automotive Dealers Association, Baker Hotel, Dallas | April 14-15 |

S. A. E.

French Lick Spring, Ind., May 25-28—Summer Meeting.

COMING FEATURE ISSUES OF CHILTON CLASS JOURNAL PUBLICATIONS

May 1—Automobile Trade Journal—Annual Big Small Town Market Number
May 5—Motor Age—Annual Sales and Service Reference Number
June 4—Automotive Industries—Engineering Number
June 10—Motor World Wholesale—A. E. A. Summer Meeting Number

the trophy one of the closed Stutz cars must complete the 24 hour run on the speedway at an average of over 60 miles per hour, or a total distance of 1440 miles, or 576 laps covered during a 24 hour period. In other words a Stutz, or any other stock car challenging for the Stevens trophy must perform to beat all existing American records for 24 hour races inclusive of the Brighton Beach mark of 1196 miles by Mulford and approaching S. F. Edge's figures of 1581 miles on the Brooklands track in England.

Gil Anderson, Tom Rooney and Bruce Keene, racing drivers, are among the men Mr. Moskovics has at call to handle the cars in the challenge for the Stevens trophy. It is expected that the test will start at 5 o'clock on the afternoon of April 21 and continue the 24 hour grind without a break.

Appointed by Auburn

AUBURN, Ind., April 9.—A. E. Gribben has been appointed eastern sales manager for the Auburn Automobile Co., with headquarters in New York and jurisdiction over the New York and New England territory.

Set Record in March

DETROIT, April 9.—Motor Wheel Corporation broke all sales records in March, and all units of the company at Lansing have been operating on a heavier schedule than a year ago.

Changes at Jackson, Ohio

JACKSON, O., April 9.—A number of changes have taken place in the automobile agencies in Jackson recently. John E. Foster has sold his interest in the Neary-Buick Co., at Wellston, and is now associated with Don Collins in the sale of the Hudson-Essex.

Quiller F. Scott withdrew from the Charles A. Scott Co., Chevrolet dealers and has taken the agency for the Oakland-Pontiac.

Dan Coll, Jr., sold his accessory and repair business known as the Auto Supply Co., to James Ludden and Ralph Eubanks and now sells the Overland-Willys Knight.

W. L. McCoy has given up the Dodge Brothers agency and has taken over the Chrysler and Paige lines.

Hard Hitting Battery Salesman

OKLAHOMA CITY, Okla., April 9.—An Oklahoma City Ford battery salesman possesses the distinction of having sold more batteries than any other man in the southwestern part of the States. He is A. E. Cook, of the Fred Jones Motor Co. here, having been with the firm for two and a half years. He sold over 235 batteries last year, these being all of the standard Ford type. He has also won many other such contests.

During January and February he won \$25 in gold for the sale of the largest number of batteries to prospects turned in from the service department of the firm.

Prices and Weights of Current Passenger Car Models

| SHIP WT. PASS. BODY STYLE. PRICE |
|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| AUBURN | CHEVROLET "AA" | DU PONT "E" | "E-3" |
| 3-4-p Roadster \$1,995 | 1890 2-p Roadster \$525 | 3700 4-p Roadster \$2,800 | 3300 5-p Touring \$1,945 |
| 5-p Touring 1,445 | 1965 5-p Touring 525 | 3850 5-p Touring 2,800 | 3360 7-p Sedan 2,495 |
| 3840 5-p Sport Sedan 1,195 | 2090 2-p Utility Coupe 625 | 3880 4-p Coupe 3,200 | 3355 2-4-p Roadster 2,045 |
| 3880 5-p Sedan 1,295 | 2190 5-p Coach 595 | 4100 5-p Sedan 3,400 | 3465 2-4-p Coupe 2,045 |
| 3840 5-p Wanderer Se'n 1,345 | 2275 5-p Sedan 695 | 4100 5-p Conv't. Sedan 3,750 | 3515 5-p Brougham 2,345 |
| "8-77" | 2135 2-4-p Cabriolet 715 | | 3545 5-p Sedan 2,345 |
| | 2270 5-p Landau Sedan 745 | | 3525 5-p Victoria 2,345 |
| | CHRYSLER "50" | ELCAR "E-70" | Sedan Lim. 2,595 |
| | 2145 5-p Touring \$750 | 2530 4-p Lan. Rdster \$1,475 | 3360 7-p Sedan 2,495 |
| | 2025 2-p Roadster 750 | 2670 5-p Brougham 1,295 | 3360 7-p Sedan Lim. 2,595 |
| | 2130 3-4-p Roadster 795 | 2750 5-p Sedan 1,395 | |
| | 2330 2-p Coupe 750 | "8-82" | |
| | 2335 5-p Coach 780 | 3320 2-4-p Land. R'dster \$1,870 | |
| | 2410 5-p Sedan 830 | 3410 5-p Brougham 1,595 | |
| | 2350 5-p Landau Sedan 885 | 3490 5-p Sedan 1,790 | |
| | "60" | "8-90" | |
| | 2570 5-p Touring \$1,075 | 3675 7-p Touring \$2,285 | |
| | 2445 3-p Roadster 1,145 | 3620 2-4-p Land. R'dster 2,295 | |
| | 2615 2-4-p Roadster 1,175 | 3710 5-p Brougham 2,195 | |
| | 2690 2-p Coupe 1,125 | 3895 5-p Sedan 2,465 | |
| | 2685 3-5-p Coupe 1,245 | 4245 7-p Sedan 2,765 | |
| | 2795 5-p Coach 1,145 | ERSKINE "8" | |
| | 2835 5-p Sedan 1,245 | 2300 5-p Tourer \$945 | |
| | "70" | 2400 5-p Coupe 945 | |
| | 2845 2-4-p Roadster \$1,495 | 2400 3-4-p Cust. Coupe 995 | |
| | 2930 5-p Phaeton 1,395 | | |
| | 2905 5-p Sp. Phaeton 1,495 | | |
| | 2905 4-p Coupe 1,595 | | |
| | 3000 2-4-p Royal Coupe 1,545 | | |
| | 3090 5-p Brougham 1,525 | | |
| | 3150 5-p Royal Sedan 1,595 | | |
| | 2935 2-4-p Cabriolet 1,745 | | |
| | 3160 5-p Crown Sedan 1,795 | | |
| | "80" | | |
| | (185 1/2 in.) | | |
| | 3765 5-p Phaeton \$2,495 | | |
| | 3805 2-4-p Roadster 2,595 | | |
| | 4110 5-p Coupe 3,095 | | |
| | 4110 5-p Sedan 2,675 | | |
| | 4055 5-p Sedan 3,095 | | |
| | "128" | 5-p Brougham \$995 | |
| | (128 in. W. B.) | 5-p Sedan 1,095 | |
| | 4055 5-p Sedan 3,095 | | |
| | "88" | | |
| | (185 1/2 in.) | | |
| | 3765 5-p Phaeton \$2,495 | | |
| | 3805 2-4-p Roadster 2,595 | | |
| | 4110 5-p Coupe 3,095 | | |
| | 4110 5-p Sedan 2,675 | | |
| | 4055 5-p Sedan 3,095 | | |
| | "128" | 5-p Brougham \$995 | |
| | (128 in. W. B.) | 5-p Sedan 1,095 | |
| | 4055 5-p Sedan 3,095 | | |
| | "89" | | |
| | (192 1/2 in.) | | |
| | 4090 4-p Coupe \$2,895 | | |
| | 4025 2-p Cabriolet 3,495 | | |
| | "192 1/2 in." | 2450 5-p Coach \$795 | |
| | 4195 7-p Sportif 3,395 | 2580 5-p Del. Coach 895 | |
| | 4370 7-p Sedan Lim. 3,595 | 2750 5-p Touring \$1,250 | |
| | 4432 5-p Town Car 5,495 | 2885 4-p Sp. Roadster 1,350 | |
| | | 2890 4-p Coupe Rdster 1,395 | |
| | | 3030 5-p Sepan 4d. 1,395 | |
| | | 3518 5-p Brougham 1,395 | |
| | "80" | 3010 5-p Sedan 1,095 | |
| | extra cost. | | |
| | "Overall length. | | |
| | CUNNINGHAM "V-7" | FALCON KNIGHT | (131 in. W. B.) |
| | 4500 4-p Sp. Touring \$6,150 | Roadster | 3660 7-p Touring \$1,785 |
| | 4600 7-p Touring 6,650 | Touring | 3225 4-p Tourster 1,895 |
| | 4700 4-p Coupe 7,600 | Coupe | 3596 5-p Spec. Bro'm Sedan 2,095 |
| | 5000 6-p Limousine 8,100 | Landau | |
| | | Brougham | |
| | | Sedan | |
| | | 1,095 | |
| | | 3,770 7-p Sedan | |
| | | 2,050 | |
| | DAGMAR "6-70" | FLINT "Z-18" | (125 in. W. B.) |
| | 3750 4-p Roadster \$3,500 | Coach | 3240 5-p Phaeton \$1,885 |
| | 3800 4-p Sp. Tourer 3,500 | DeL. Coach | 3155 4-p Speedster 2,095 |
| | 3700 4-p Phaeton 3,500 | | 3433 4-p Coupe R'dster 2,095 |
| | 4200 4-p Petite Coupe 4,500 | Touring | 3320 5-p Brougham 1,895 |
| | 4200 4-p Petite Sedan 4,500 | Sp. Touring | 3345 5-p Spec. Bro'm 1,995 |
| | 4500 4-p De Luxe Coupe 4,750 | Coupe Rdster | 3400 5-p Bro'm Sedan 2,095 |
| | 4500 4-p Sedan 4,700 | Tudor Sedan | 3518 5-p Conv't Bro'm 2,495 |
| | 4700 4-p Sedan 4,750 | Brougham | |
| | "6-80" | 3010 5-p Sedan 1,095 | |
| | (132 in. W. B.) | | |
| | 3750 4-p Roadster \$3,500 | | |
| | 3800 4-p Sp. Tourer 3,500 | | |
| | 3700 4-p Phaeton 3,500 | | |
| | 4200 4-p Petite Coupe 4,500 | | |
| | 4200 4-p Petite Sedan 4,500 | | |
| | 4500 4-p De Luxe Coupe 4,750 | | |
| | 4500 4-p Sedan 4,700 | | |
| | 4700 4-p Sedan 4,750 | | |
| | "8-80" | | |
| | (132 in. W. B.) | | |
| | 3750 4-p Roadster \$3,500 | | |
| | 3800 4-p Sp. Tourer 3,500 | | |
| | 3700 4-p Phaeton 3,500 | | |
| | 4200 4-p Petite Coupe 4,500 | | |
| | 4200 4-p Petite Sedan 4,500 | | |
| | 4500 4-p De Luxe Coupe 4,750 | | |
| | 4500 4-p Sedan 4,700 | | |
| | 4700 4-p Sedan 4,750 | | |
| | "8-80" | | |
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| | 3750 4-p Roadster \$3,500 | | |
| | 3800 4-p Sp. Tourer 3,500 | | |
| | 3700 4-p Phaeton 3,500 | | |
| | 4200 4-p Petite Coupe 4,500 | | |
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Prices and Weights of Current Passenger Car Models

Mechanical Specifications of Current Passenger Car Models

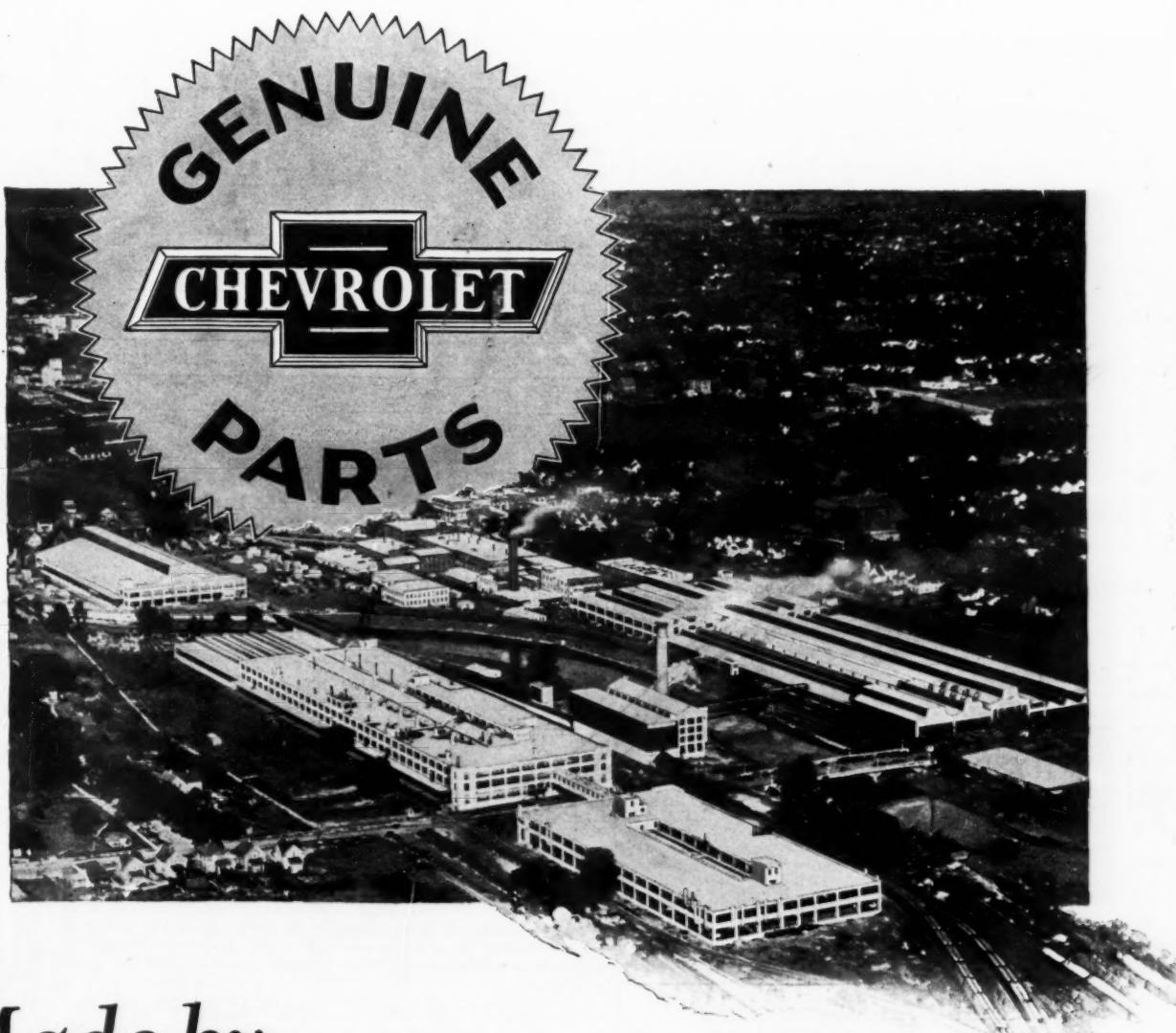
This list comprises errors distributed on a national basis.

- Balloons at extra cost
- Overall Length
- Semi-floating

Fig. 4.—Three-quarter floating
—Air

| | | | |
|----|---|----------------|----------------------|
| PF | Connecting rod bearings | PS | Solids with measure |
| PK | Full pressure to all bearings | PT | Cure |
| PK | Pressure to crankshaft, connecting rods and camshaft bearings | (rear springs) | (rear springs) |
| PS | Solids with measure | Var. | Var.—varies |
| PT | Cure | Serv. | Servo |
| | | Separate | Separate |
| | | Sp. | Splash (lubrication) |
| | | Sp. | Gear (camshaft) |
| | | | drive |
| | | See | Special make |
| | | X | Sleeve valve |
| | | Y | Yes |
| | | | |

Zer-Zer
Zen-Zenith
(Continued on page 42)



Made by

One of the 12 great Chevrolet factories that produce Chevrolet replacement parts

The Company Most Interested in Your Customers' Satisfaction

No other concern is so vitally interested in the satisfactory performance of Chevrolet automobiles—the cars so many of your customers are now driving—as the Chevrolet Motor Company.

Therefore, it is only logical that the Chevrolet Motor Company should produce for its cars

replacement parts that are superior in every way.

Consequently, it will pay you to use only genuine, precision-made Chevrolet parts in all Chevrolet cars that you service. They will give your customers better service—and will make them better satisfied with your work.

CHEVROLET MOTOR COMPANY, DETROIT, MICHIGAN
Division of General Motors Corporation

QUALITY AT LOW COST

Mechanical Specifications of Current Passenger Car Models—Continued (From page 40)

| MAKE AND MODEL | ENGINE | ELECTRICAL SYSTEM | | | | | | | | | | REAR AXLE | BRAKES | | | | | | | | | | |
|---|---------|-------------------|-------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|-----------|--------|--------|------|--------|----------|------|------|------|------|-------|----------|
| | | Generator Model | Generator Model | Center Set Model | Center Set Model | Center Set Model | Center Set Model | Center Set Model | Center Set Model | Center Set Model | Center Set Model | | | | | | | | | | | | |
| Locomobile.....8-66 | 124 | 3045.77 | Own...8-P | C.I. | 5 | Y | P.P. | Pu. | N | N | Str... | Y | DeLo. | P.Spi. | War. | m.U.M. | 1/2 Ada. | 4.70 | I.F. | I.R. | Se | Ross. | S-45 1/2 |
| Locomobile.....8-80 | 130 | 3246.00 | Lyc Spe...8-3/4x4 | C.I. | 5 | Y | P.C. | Pu. | N | N | Str... | Y | DeLo. | P.B&B | War. | m.Spi. | 1/2 Sal. | 4.81 | I.F. | I.R. | Se | Ross. | S-38 |
| Locomobile.....48 | 142 | 3366.75 | Own...48-6-41/2x5 1/2 | C.I. | 7 | Y | P.C. | Pu. | N | N | Str... | Y | DeLo. | P.Own. | War. | m.U.M. | 1/2 Ada. | 4.70 | B.F. | I.R. | M | Ross. | J-50 |
| Locomobile....."90" | 138 | 3367.75 | Own...90-6-3/4x5 1/2 | C.I. | 7 | Y | P.C. | Pu. | N | N | Str... | Y | DeLo. | P.Own. | War. | m.U.M. | 1/2 Ada. | 4.70 | B.F. | I.R. | M | Ross. | S-60 |
| Marmen.....Little E.75 | 116 | 2945.25 | Own...8-2 1/2x4 | C.H. | Al. | 5 | Y | P.P. | Pu. | Y | N | Seh... | N | D.R. | D.R. | P. | Var. | I.F. | I.R. | M | Gen. | S-56 | |
| Marmen.....E.75 | 136 | 3246.75 | Own...E.75-6-3/4x5 1/2 | C.H. | Al. | 5 | Y | P.P. | Pu. | Y | N | Seh... | N | D.R. | D.R. | P.B&B | Own. | I.F. | I.R. | M | Gen. | T-45 | |
| McFarlan.....S.3 | 131 | 3366.75 | Lyc Spe...8-3/4x4 | C.H. | Al. | 5 | Y | P.C. | Pu. | Y | N | Str... | Y | DeLo. | D.R. | P.B&B | B.L. | 5.11 | E.F. | I.T. | H | Ross. | S-58 |
| McFarlan.....TV | 141 1/2 | 3366.75 | Own...TV-6-4-5/8 | C.H. | Al. | 4 | Y | P.C. | Pu. | Y | N | Str... | Y | DeLo. | D.R. | P.B&B | W.G. | 5.11 | E.F. | I.T. | H | Ross. | S-54 |
| McFarlan.....Series A | 113 | 2045.25 | Con...72-6-3/4x5 1/2 | C.H. | Al. | 4 | Y | P.C. | Pu. | Y | N | Str... | Y | Y | Y | A.L. | Col. | 4.89 | E.F. | E.T. | H | Ross. | S-54 |
| McFarlan....."46" | 110 | 2944.75 | Own...28L-6-3/4x5 1/2 | C.H. | Al. | 5 | Y | P.P. | Pu. | Y | N | Car... | Y | Y | Y | A.L. | Col. | 4.89 | B.F. | E.T. | M | Ross. | S-50 |
| Moon.....Light Six | 108 | 3165.25 | Own...26L-6-3/4x5 1/2 | C.H. | Al. | 5 | Y | P.P. | Pu. | Y | N | Car... | Y | Y | Y | A.L. | Col. | 4.89 | B.F. | E.T. | M | Ross. | S-53 |
| Nash.....Advanced | 121-127 | 3165.25 | Own...23L-6-3/4x5 1/2 | C.H. | Al. | 5 | Y | P.P. | Pu. | Y | N | Car... | Y | Y | Y | A.L. | Col. | 4.89 | B.F. | E.T. | M | Ross. | S-52 |
| Nash.....Special | 112 1/2 | 3165.25 | Own...23L-6-3/4x5 1/2 | C.H. | Al. | 5 | Y | P.P. | Pu. | Y | N | Car... | Y | Y | Y | A.L. | Col. | 4.89 | B.F. | E.T. | M | Jac. | S-50 |
| Oakland.....30E | 110 1/2 | 3045.25 | Own...30D-6-2 1/2x4 1/2 | C.H. | Al. | 3 | Y | P.K. | Pu. | Y | N | Job... | Y | Y | Y | A.L. | Col. | 4.73 | B.F. | E.T. | H | Jac. | S-49 |
| Oldsmobile.....Overland.....(4) Whippet | 100 1/2 | 2844.75 | Own...98-4.3-5x3 1/2 | C.H. | Al. | 3 | Y | P.K. | Pu. | Y | N | Til... | Y | Y | Y | A.L. | Col. | 4.86 | I.F. | I.R. | M | Own. | G-49 |
| Packard.....6-128 | 136-143 | 3345.77 | Own...32A-6-3/4x5 1/2 | C.H. | Al. | 3 | Y | P.K. | Pu. | Y | N | Til... | Y | Y | Y | A.L. | Col. | 5.11 | B.F. | I.R. | M | Own. | S-51 1/2 |
| Packard.....8 | 136 | 3346.75 | Own...32A-6-3/4x5 1/2 | C.H. | Al. | 3 | Y | P.K. | Pu. | Y | N | Til... | Y | Y | Y | A.L. | Col. | 5.11 | B.F. | I.R. | M | Own. | S-51 1/2 |
| Packard.....125 | 125 | 3246.75 | Own...75-6-3/4x5 1/2 | C.H. | Al. | 3 | Y | P.K. | Pu. | Y | N | Til... | Y | Y | Y | A.L. | Col. | 5.11 | B.F. | I.R. | M | Own. | S-51 1/2 |
| Page.....6-65 | 115 | 3115.25 | Own...65-6-3/4x5 1/2 | C.H. | Al. | 3 | Y | P.K. | Pu. | Y | N | Til... | Y | Y | Y | A.L. | Col. | 4.86 | E.F. | E.T. | H | Gen. | S-54 |
| Page.....8-85 | 138 | 3046.75 | Own...8-2 1/2x4 | C.H. | Al. | 3 | Y | P.K. | Pu. | Y | N | Til... | Y | Y | Y | A.L. | Col. | 4.86 | E.F. | E.T. | H | Gen. | S-54 |
| Pearlie.....6-60 | 116 | 2945.25 | Own...8-2 1/2x4 | C.H. | Al. | 3 | Y | P.K. | Pu. | Y | N | Til... | Y | Y | Y | A.L. | Col. | 4.86 | E.F. | E.T. | H | Gen. | S-54 |
| Pearlie.....6-72 | 120 | 3346.75 | Own...8-2 1/2x4 | C.H. | Al. | 3 | Y | P.K. | Pu. | Y | N | Til... | Y | Y | Y | A.L. | Col. | 4.86 | E.F. | E.T. | H | Gen. | S-54 |
| Pearlie.....6-90 | 120 | 3346.75 | Own...8-2 1/2x4 | C.H. | Al. | 3 | Y | P.K. | Pu. | Y | N | Til... | Y | Y | Y | A.L. | Col. | 4.86 | E.F. | E.T. | H | Gen. | S-54 |
| Pearlie.....6-90 | 120 | 3246.75 | Own...8-2 1/2x4 | C.H. | Al. | 3 | Y | P.K. | Pu. | Y | N | Til... | Y | Y | Y | A.L. | Col. | 4.86 | E.F. | E.T. | H | Gen. | S-54 |
| Pearlie.....8-88 | 126 | 3346.75 | Own...8-2 1/2x4 | C.H. | Al. | 3 | Y | P.K. | Pu. | Y | N | Til... | Y | Y | Y | A.L. | Col. | 4.86 | E.F. | E.T. | H | Gen. | S-54 |
| Pearlie Arrow.....80 | 130 | 3346.00 | Own...8-2 1/2x4 | C.H. | Al. | 3 | Y | P.K. | Pu. | Y | N | Til... | Y | Y | Y | A.L. | Col. | 4.86 | E.F. | E.T. | H | Gen. | S-54 |
| Pentie.....6-60 | 116 | 2945.25 | Own...8-2 1/2x4 | C.H. | Al. | 3 | Y | P.K. | Pu. | Y | N | Til... | Y | Y | Y | A.L. | Col. | 4.86 | E.F. | E.T. | H | Gen. | S-54 |
| Pentie.....6-72 | 120 | 3346.75 | Own...8-2 1/2x4 | C.H. | Al. | 3 | Y | P.K. | Pu. | Y | N | Til... | Y | Y | Y | A.L. | Col. | 4.86 | E.F. | E.T. | H | Gen. | S-54 |
| Pearlie.....6-90 | 120 | 3346.75 | Own...8-2 1/2x4 | C.H. | Al. | 3 | Y | P.K. | Pu. | Y | N | Til... | Y | Y | Y | A.L. | Col. | 4.86 | E.F. | E.T. | H | Gen. | S-54 |
| Pearlie.....6-90 | 120 | 3246.75 | Own...8-2 1/2x4 | C.H. | Al. | 3 | Y | P.K. | Pu. | Y | N | Til... | Y | Y | Y | A.L. | Col. | 4.86 | E.F. | E.T. | H | Gen. | S-54 |
| Pearlie.....8-88 | 126 | 3346.75 | Own...8-2 1/2x4 | C.H. | Al. | 3 | Y | P.K. | Pu. | Y | N | Til... | Y | Y | Y | A.L. | Col. | 4.86 | E.F. | E.T. | H | Gen. | S-54 |
| Pentie.....8-88 | 126 | 3246.75 | Own...8-2 1/2x4 | C.H. | Al. | 3 | Y | P.K. | Pu. | Y | N | Til... | Y | Y | Y | A.L. | Col. | 4.86 | E.F. | E.T. | H | Gen. | S-54 |
| Pentie.....8-88 | 126 | 3246.75 | Own...8-2 1/2x4 | C.H. | Al. | 3 | Y | P.K. | Pu. | Y | N | Til... | Y | Y | Y | A.L. | Col. | 4.86 | E.F. | E.T. | H | Gen. | S-54 |
| Pentie.....8-88 | 126 | 3246.75 | Own...8-2 1/2x4 | C.H. | Al. | 3 | Y | P.K. | Pu. | Y | N | Til... | Y | Y | Y | A.L. | Col. | 4.86 | E.F. | E.T. | H | Gen. | S-54 |
| Pentie.....8-88 | 126 | 3246.75 | Own...8-2 1/2x4 | C.H. | Al. | 3 | Y | P.K. | Pu. | Y | N | Til... | Y | Y | Y | A.L. | Col. | 4.86 | E.F. | E.T. | H | Gen. | S-54 |
| Pentie.....8-88 | 126 | 3246.75 | Own...8-2 1/2x4 | C.H. | Al. | 3 | Y | P.K. | Pu. | Y | N | Til... | Y | Y | Y | A.L. | Col. | 4.86 | E.F. | E.T. | H | Gen. | S-54 |
| Pentie.....8-88 | 126 | 3246.75 | Own...8-2 1/2x4 | C.H. | Al. | 3 | Y | P.K. | Pu. | Y | N | Til... | Y | Y | Y | A.L. | Col. | 4.86 | E.F. | E.T. | H | Gen. | S-54 |
| Pentie.....8-88 | 126 | 3246.75 | Own...8-2 1/2x4 | C.H. | Al. | 3 | Y | P.K. | Pu. | Y | N | Til... | Y | Y | Y | A.L. | Col. | 4.86 | E.F. | E.T. | H | Gen. | S-54 |
| Pentie.....8-88 | 126 | 3246.75 | Own...8-2 1/2x4 | C.H. | Al. | 3 | Y | P.K. | Pu. | Y | N | Til... | Y | Y | Y | A.L. | Col. | 4.86 | E.F. | E.T. | H | Gen. | S-54 |
| Pentie.....8-88 | 126 | 3246.75 | Own...8-2 1/2x4 | C.H. | Al. | 3 | Y | P.K. | Pu. | Y | N | Til... | Y | Y | Y | A.L. | Col. | 4.86 | E.F. | E.T. | H | Gen. | S-54 |
| Pentie.....8-88 | 126 | 3246.75 | Own...8-2 1/2x4 | C.H. | Al. | 3 | Y | P.K. | Pu. | Y | N | Til... | Y | Y | Y | A.L. | Col. | 4.86 | E.F. | E.T. | H | Gen. | S-54 |
| Pentie.....8-88 | 126 | 3246.75 | Own...8-2 1/2x4 | C.H. | Al. | 3 | Y | P.K. | Pu. | Y | N | Til... | Y | Y | Y | A.L. | Col. | 4.86 | E.F. | E.T. | H | Gen. | S-54 |
| Pentie.....8-88 | 126 | 3246.75 | Own...8-2 1/2x4 | C.H. | Al. | 3 | Y | P.K. | Pu. | Y | N | Til... | Y | Y | Y | A.L. | Col. | 4.86 | E.F. | E.T. | H | Gen. | S-54 |
| Pentie.....8-88 | 126 | 3246.75 | Own...8-2 1/2x4 | C.H. | Al. | 3 | Y | P.K. | Pu. | Y | N | Til... | Y | Y | Y | A.L. | Col. | 4.86 | E.F. | E.T. | H | Gen. | S-54 |
| Pentie.....8-88 | 126 | 3246.75 | Own...8-2 1/2x4 | C.H. | Al. | 3 | Y | P.K. | Pu. | Y | N | Til... | Y | Y | Y | A.L. | Col. | 4.86 | E.F. | E.T. | H | Gen. | S-54 |
| Pentie.....8-88 | 126 | 3246.75 | Own...8-2 1/2x4 | C.H. | Al. | 3 | Y | P.K. | Pu. | Y | N | Til... | Y | Y | Y | A.L. | Col. | 4.86 | E.F. | E.T. | H | Gen. | S-54 |
| Pentie.....8-88 | 126 | 3246.75 | Own...8-2 1/2x4 | C.H. | Al. | 3 | Y | P.K. | Pu. | Y | N | Til... | Y | Y | Y | A.L. | Col. | 4.86 | E.F. | E.T. | H | Gen. | S-54 |
| Pentie.....8-88 | 126 | 3246.75 | Own...8-2 1/2x4 | C.H. | Al. | 3 | Y | P.K. | Pu. | Y | N | Til... | Y | Y | Y | A.L. | Col. | 4.86 | E.F. | E.T. | H | Gen. | S-54 |
| Pentie.....8-88 | 126 | 3246.75 | Own...8-2 1/2x4 | C.H. | Al. | 3 | Y | P.K. | Pu. | Y | N | Til... | Y | Y | Y | A.L. | Col. | 4.86 | E.F. | E.T. | H | Gen. | S-54 |
| Pentie.....8-88 | 126 | 3246.75 | Own...8-2 1/2x4 | C.H. | Al. | 3 | Y | P.K. | Pu. | Y | N | Til... | Y | Y | Y | A.L. | Col. | 4.86 | E.F. | E.T. | H | Gen. | S-54 |
| Pentie.....8-88 | 126 | 3246.75 | Own...8-2 1/2x4 | C.H. | Al. | 3 | Y | P.K. | Pu. | Y | N | Til... | Y | Y | Y | A.L. | Col. | 4.86 | E.F. | E.T. | H | Gen. | S-54 |
| Pentie.....8-88 | 126 | 3246.75 | Own...8-2 1/2x4 | C.H. | Al. | 3 | Y | P.K. | Pu. | Y | N | Til... | Y | Y | Y | A.L. | Col. | 4.86 | E.F. | E.T. | H | Gen. | S-54 |
| Pentie.....8-88 | 126 | 3246.75 | Own...8-2 1/2x4 | C.H. | Al. | 3 | Y | P.K. | Pu. | Y | N | Til... | Y | Y | Y | A.L. | Col. | 4.86 | E.F. | E.T. | H | Gen. | S-54 |
| Pentie.....8-88 | 126 | 3246.75 | Own...8-2 1/2x4 | C.H. | Al. | 3 | Y | P.K. | Pu. | Y | N | Til... | Y | Y | Y | A.L. | Col. | 4.86 | E.F. | E.T. | H | Gen. | S-54 |
| Pentie.....8-88 | 126 | 3246.75 | Own...8-2 1/2x4 | C.H. | Al. | 3 | Y | P.K. | Pu. | Y | N | Til... | Y | Y | Y | A.L. | Col. | 4.86 | E.F. | E.T. | H | Gen. | S-54 |
| Pentie.....8-88 | 126 | 3246.75 | Own...8-2 1/2x4 | C.H. | Al. | 3 | Y | P.K. | Pu. | Y | N | Til... | Y | Y | Y | A.L. | Col. | 4.86 | E.F. | E.T. | H | Gen. | S-54 |
| Pentie.....8-88 | 126 | 3246.75 | Own...8-2 1/2x4 | C.H. | Al. | 3 | Y | P.K. | Pu. | Y | N</ | | | | | | | | | | | | |

MODEL "C" UNIVERSAL
THE BEST ACCELERATOR FOR FORDS

Bull Dog

THE PRODUCT itself would have made Bull Dog Model "C" a huge success. But the product plus the name, plus the Ford owner's preference and backed by a continuous stream of effective advertising has made the

BULL DOG "C" THE BIGGEST SELLING ACCELERATOR IN THE HISTORY OF THE BUSINESS

THE W. THOMAS MFG. CO., SPENCER, IOWA
ONE MODEL FITS THEM ALL

r—single plate
L—L head
H—Horizontal (valves)
E—Full elliptic
B—Semi-elliptic

SHERWIN- PAINTS VARNISHES

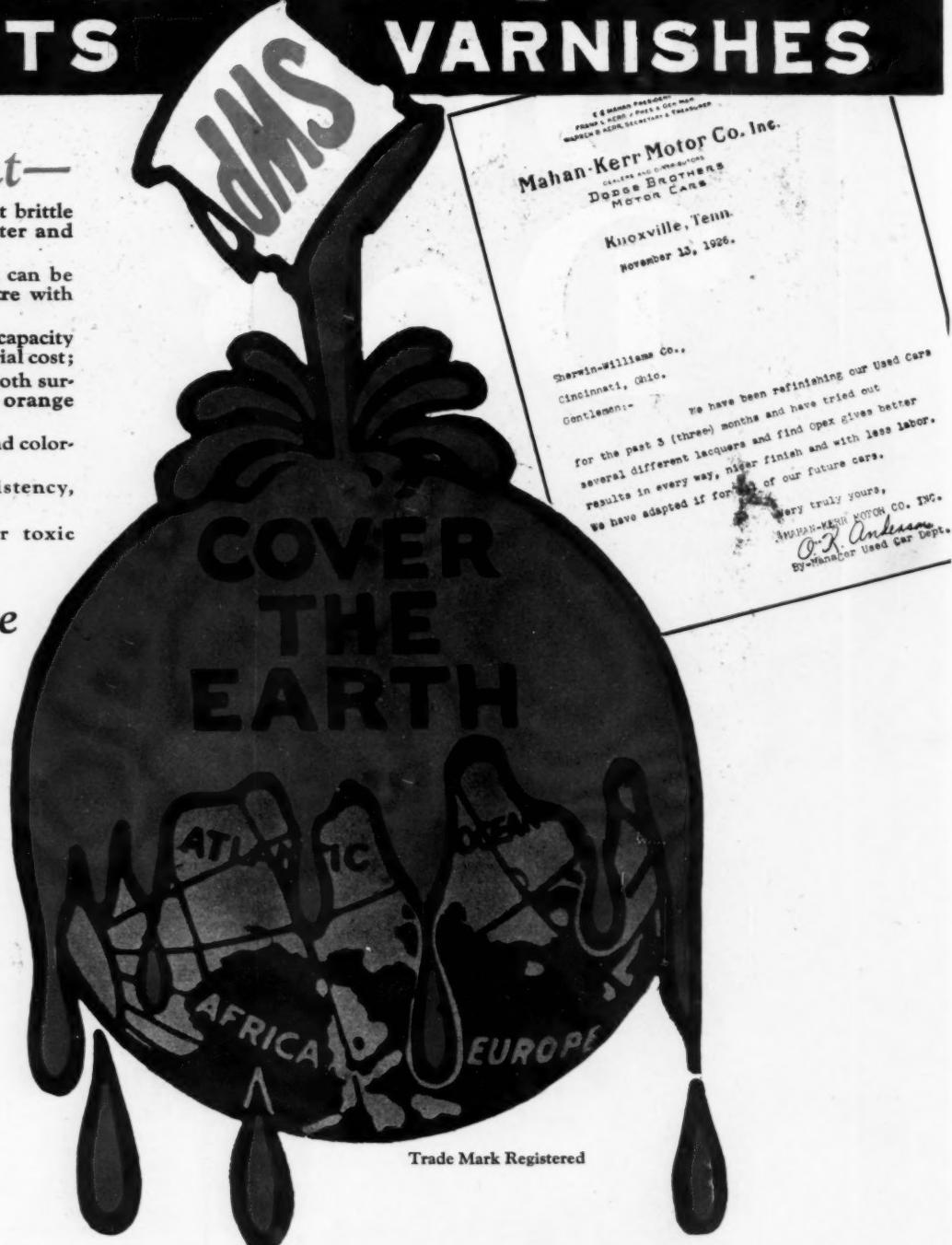
If you want—

- 1 A hard, tough, but not brittle film that is wear, water and weather proof;
- 2 A natural gloss which can be brought to a high lustre with the lowest labor cost;
- 3 Exceptional covering capacity with a minimum material cost;
- 4 An even flow and smooth surface free of bubbles, orange peel or blushing;
- 5 Fast lacquer enamels and colorless clears;
- 6 Uniformity of consistency, weight and shade;
- 7 No residual odor or toxic fumes;

You will use



The perfected
lacquer enamel



L A R G E S T I N

WILLIAMS

LACQUERS · ENAMELS



"Good looks" sells old cars quicker than anything else, dealers say. The small Opex stock in the rack is enough to make all the Mahan-Kerr Company's old cars look attractive. A profit idea for you is in their letter at the left.



Old car values boosted by Opex finish

*Experience of Mahan-Kerr Motor Co., Inc.
Knoxville, Tennessee*

The profit on a new car sale isn't real until the old car's traded out! Alert auto sales companies find that Opex speeds the sale of old cars.

No wonder, then, that progressive auto sales companies like Mahan-Kerr are standardizing on Opex. "We tried several lacquers," says their letter, "but Opex gives better results in every way and a nicer finish with less labor. We have adopted Opex for all future work."

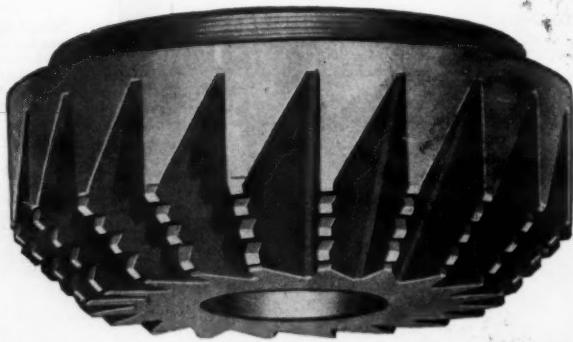
Insure your "10 per cent plus" with Opex! Use the coupon!

THE SHERWIN-WILLIAMS COMPANY
Cleveland, Ohio

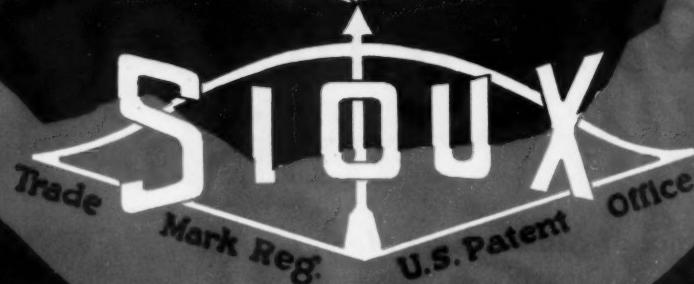
THE SHERWIN-WILLIAMS CO., 420 Canal Rd.
Gentlemen: Please send me complete Opex data.
Name _____
Address _____
City _____
State _____

THE WORLD

SIOUX ROUGHING REAMER



Patented September 7, 1926



IT remained for "Sioux" to bring out the only *real* reamer for removing hard and crystalized carbon deposits from valve seats. It has an ingenious arrangement of tough sharp teeth which bite right into the glazed surface, peeling it off with a few turns and leaving a smooth, even surface. Made in 15, 30, 45, 50, 60 and 75-degree angles. Used with regular Sioux pilot stems.

In thousands of shops, the many advanced engineering ideas offered in Sioux Valve Seat Reamers have proved to be far-reaching contributions to accuracy, speed and economy on valve work—resulting in bigger profits.

Your Jobber Sells Them.

ALBERTSON & CO.
SIOUX CITY, IOWA

CHRISTEN SAFETY WINDSHIELD WIPER BLADE

Jobbers - Dealers

Here Is Something that SELLS—NOW

The Christen Blade is a rust-proof metal holder in which are clamped a strip of live rubber and a strip of chemically-treated felt.

The rubber wipes off the dirt—the felt applies a chemical to the glass which keeps it clear for hours without further action of the wiper.

The Christen Blade keeps the vision-area clear without continuous wiping.

Fits Any Type of Wiper

The Christen Blade fits any type of automatic or hand windshield wiper; just remove the old blade and insert the Christen Blade.

The felt strip supports the rubber, keeps it straight and prevents its breaking; and with the Christen Blade, the wiper.

Cannot Scratch the Glass

It is the newest device for providing clear-vision safety in all kinds of weather. Simple, easily attached, "does the business"—AND SELLS—for 35c.

Without Continuous Wiping Keeps Windshield Clear

RUBBER wipes off dirt—FELT puts on a chemical that keeps vision-area on windshield clear for hours *without continuous wiping*, in rain, mist, fog, snow.

**CHRISTEN'S
SAFETY WINDSHIELD WIPER BLADE**

This new wiper blade fits any style of automatic, or hand, windshield wiper—just take out the old blade and insert the Christen blade. Like a new car, or new pair of shoes, it has to be "broken in" before you will get the best results. It comes to you with the Felt slightly higher than the Rubber, because after two or three good storms used as an ordinary wiper blade the Felt squashes down to the level of the Rubber, the excess chemical is worked out and you get results that mean lasting satisfaction. Same good service for life of blade. Guaranteed for one year. Metal part rust-proof because Parkerized.

35¢ standard 7½ in. size. Special 9 in. size, 50c. Ask for it by name wherever auto accessories are carried.

V. H. CHRISTEN MFG. CO.
319 Orleans Street Detroit

Three-Color Counter Display

Creates Instant Demand

The 3-color counter displays furnished with Christen Safety Windshield Wiper Blades are silent salesmen which help the dealer to create an instant demand.

And our jobbers' catalog sheets simplify the problem of acquainting jobbers' salesmen and dealers with the merits of the article.

National Advertising

Back of the intrinsic merit of the Christen Blade is the stimulating force of National Advertising, which appears every month in the year and tells the advantages of this device to millions every month.

You, Mr. Jobber, and you, Mr. Dealer, can benefit by this nationwide campaign in proportion to the sales effort you make.

It is worth your while to sell and recommend Christen Blades. Place your order today so you can get your share of the 20,000,000 replacement blades sold annually.

Saturday Evening Post, April 16, 1927

Note—The Christen Safety Blade, like a pair of new shoes, needs "breaking in" before it operates with the highest efficiency. At first the Felt is slightly higher than the Rubber, but after using a few times and the excess chemical is worked out, the Felt finds the proper level and the complete blade works perfectly.

V. H. CHRISTEN MANUFACTURING COMPANY
315-319 Orleans Street

Detroit, Michigan

The PEERLESS Line is Now Complete

*This Remarkable Six-60
opens new doors for
bigger profits*

TODAY—with this new, low-priced car—the Peerless franchise offers one of the outstanding business opportunities of the day.

Never has a line of automobiles been more complete. Never has a line given dealers and distributors greater sales leeway. Never has a line shown greater opportunities for straight-away, clean-cut profits.

Four beautiful Sixes—and a V-type Eight that for years has been known as one of the aristocrats of the automobile field.

Closed car prices from \$1345 to \$3795.

That's what Peerless offers the trade today. Write, wire or phone for details of the Peerless franchise.

Specifications

Wheel Base—116 inches.

Engine—Peerless 6 cylinder, high speed, high efficiency. Bore, $3\frac{1}{4}$ ". Stroke, 4". Piston displacement, 199.1 cubic inches. S.A.E. rating 25.35 H. P. Actual Brake H.P.—62 at 3000 R. P. M.

Crankshaft—7-bearings, $2\frac{1}{8}$ " in diameter.

Brakes—Peerless Lockheed Hydraulic, 4-wheel.

Tires—Balloon cords 29 x 5.25.

Steering—Cam and lever semi-reversible type with variable pitch of cam screw which makes turning exceptionally easy.

Body Types—Attractive, up-to-date body styles to choose from.



PEERLESS MOTOR

PEERLESS HAS



The New Six-60 Sedan



The Complete PEERLESS Line

The Six-60
An attractive
line of
Six-60 models
from \$1345
downwards

The Six-72
Five-Passenger
Phaeton \$1895
Roadster 2195
Five-Pass. Coupe 2295
Five-Pass. Sedan 2395
Seven-Passenger
Sedan 2595
Limousine 2695
Five-Passenger
DeLuxe Sedan 2795
Seven-Passenger
DeLuxe Sedan 2995

The Six-80
Phaeton \$1395
Roadster 1495
Two-Door Sedan 1395
Roadster Coupe . 1565
Four-Door Sedan 1595

The Six-90
Roadster \$1695
Five-Passenger
Sedan 1895
Close-Coupled
Sedan 1895
Landaulet-Sedan . 1995
Roadster-Coupe . 1725

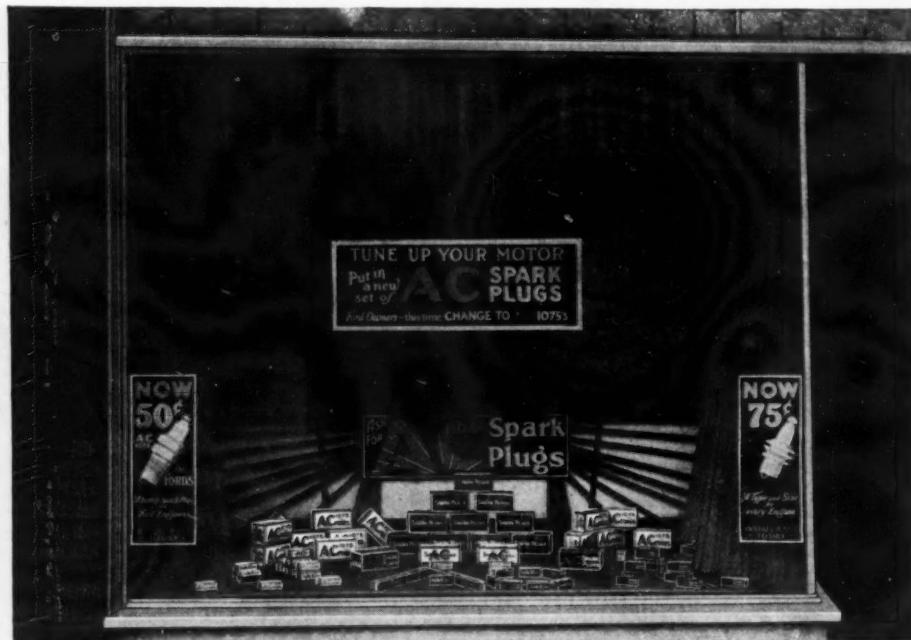
The Eight-69
Standard Five-
Pass. Coupe \$2795
Standard Five-
Pass. Sedan 2995
Standard Seven-
Pass. Sedan 3095
Custom Roadster 2995
Custom Five-
Pass. Sedan 3495
Custom Seven-
Pass. Sedan 3595
Berline Limousine 3795

(All prices f. o. b. factory)

C A R C O R P O R A T I O N · Cleveland, Ohio
ALWAYS BEEN A GOOD CAR



Change Spark Plugs After a Winter's Driving



Now is the time to go after spark plug business.

Every dealer can increase his spark plug sales and sell many sets by putting in an AC Window Trim and soliciting customers to buy a new set of spark plugs after a winter's driving.

AC Products, displayed as leaders in the window, will enable dealers not only to increase their sales on AC Products, but on other merchandise as well.

Material for display furnished gratis on request—simply write for an AC Window Trim.

AC Spark Plug Company, FLINT, Michigan

AC-SPHINX
Birmingham
ENGLAND

Makers of *AC Spark Plugs—AC Speedometers—AC Air
Cleaners—AC Oil Filters—AC Gasoline Strainers*

AC-TITAN
Levallois-Perret
FRANCE

Over 200 of the world's most successful manufacturers use one or more, or all of these AC Products

AC
SPARK PLUGS

AC
SPEEDOMETERS

AC
AIR CLEANERS

AC
OIL FILTERS

Why They Always Come Back for More

THE fan belt buyer knows that a belt either gave satisfaction or it didn't. Based on that test, he always comes back for the Gilmer.

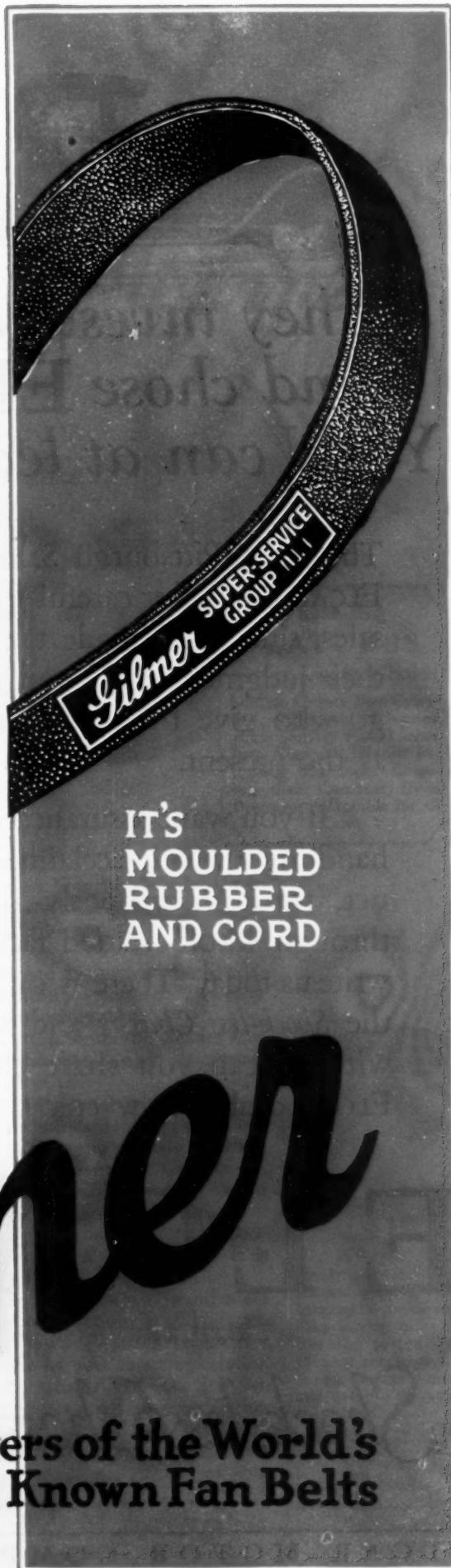
Gilmer engineers knew that fan belt satisfaction depended on how many times the belt could take the jerking surge of the starting motor without injury.

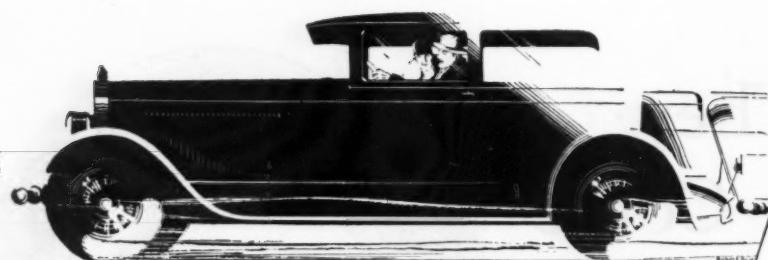
Based on that knowledge, the Gilmer Fan Belt of moulded rubber and cord construction was evolved. The result is a belt with *strength* to start the fan oftener, *durability* to keep it running longer and the *buyer-satisfaction* that always brings them back for more.

L. H. GILMER CO.

Tacony, Philadelphia, Pa.

Gilmer
Makers of the World's
Best Known Fan Belts





They investigated and chose ELCAR YOU can at least INVESTIGATE!

The Elcar-Pittsburgh Sales Company chose ELCAR only after careful investigation. Their sales, since they made the choice, vindicate their judgment and point the way for all to go who give thought to the future as well as the present.

If you want assurance of profit through handling a widely-acclaimed, successful product, through properly-figured discounts, through whole-hearted factory co-operation, write us today. There is only one ELCAR with the *Shock-less Chassis* and we build it—only with us can you share the prosperity all ELCAR dealers now enjoy.

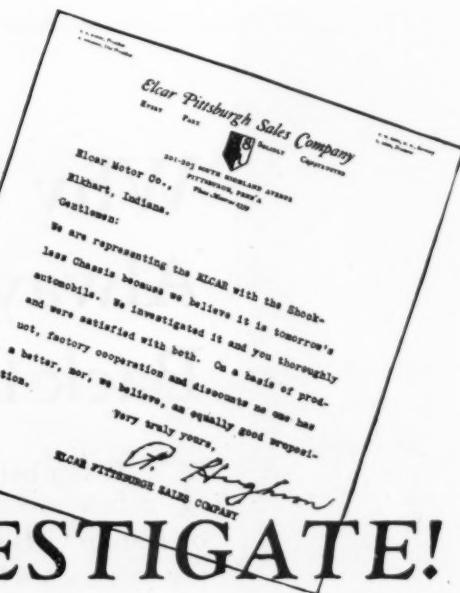
ELCAR

WITH THE

Shock-less Chassis



ELCAR MOTOR COMPANY · ELKHART, INDIANA



Shock-less Chassis Features

- Belflex Shackles [not rubber blocks]
- Cork Body Inserts
- Felt Padded Body
- Oversize Balloon Tires
- Motor Vibration Dampener
- Cushioned Motor Supports
- Lovejoy Hydraulic Shock Absorbers [8-82]
- Extra Long Springs
- Lower Center of Gravity
- Balanced Wheels
- Nachman Deep Davenport Type Upholstery Springs
- Extra Heavy Frame

Standard Equipment Features [8-82]

Included in the Price of the Car—NOT EXTRAS!

- Balloon Bumper in Front
- Balloonette Bumpers in Rear
- Combination Stop, Tail and Backing-up Light
- Lovejoy Hydraulic Shock Absorbers
- Dash Gasoline Gauge
- Automatic Windshield Wiper
- Transmission Lock
- Rear Vision Mirror
- Heater in All Closed Models
- Motometer and Winged Radiator Cap
- Pump, Jack and Tools
- Fedco Theft Protection

The
Saturday Evening Post
(April 16)
will carry this full page
color Announcement to
Millions of Motorists



Cash-in on this advertising that reaches the best homes in your community, by stocking and displaying this popular product

Other Stewart-Warner
Sales Leaders

Stewart-Warner Bumpers
Stewart-Warner Shock Absorbers
Stewart-Warner Speedometers
Stewart-Warner Driving Lights
Stewart-Warner Road Lights
Stewart-Warner Horns
Stewart-Warner Vacuum Tanks

Now—
a Real, Vacuum
Windshield Cleaner with
Double Power by
Stewart-Warner



\$4.25
COMPLETE

These Big
FEATURES
Insure Greater Sales
Double Power; Two Cylinder; Adjustable Cleaner Arm; Doubly Fast; Noiseless; Compact; Easily Installed; Maximum Cleaning Area; Constant, Even Pressure; Adaptable for all Cars

THIS new Stewart-Warner Windshield Cleaner is as great an improvement over the ordinary vacuum type cleaner as the four-cylinder car was over the old "two-lunger."

Our engineers have harnessed the power at both ends, so that a double-power impulse is obtained. Power is applied at the end of every single stroke.

A turn of the control button sends the cleaner arm steadily and swiftly across the glass, keeping it crystal-clear in the heaviest rain or snow.

The arm has a full swing of 180° so that it may be kept out of the way, up against the windshield top, when not in use. It may be lifted away from the windshield when washing the glass. Adjustable for any size windshield.

Objectionable clicking and hissing noises, common with so many vacuum-type windshield cleaners, have been eliminated. The mechanism is sufficiently lubricated, so that no further attention is necessary. It is protected against dust and dirt.

Like all Stewart-Warner Products, the Windshield Cleaner is of highest-grade construction. It will pay you to handle the entire line of Stewart-Warner Accessories. It will save you much time as well as transportation costs to deal with one distributing point—the Stewart-Warner Products Service Station. All Stewart-Warner Accessories meet a popular demand, are big profit makers and will give your customers real satisfaction.

Stewart-Warner Speedometer Corporation, Chicago, U. S. A.



Also the
Stewart-Warner
Electrically-operated
Model

Steady, silent and continuous operation. No lubrication necessary after leaving factory. Tension spring on cleaner arm insures strong, even pressure. Adjustable to any windshield.

\$8.50

Stewart-Warner
The Trade-Mark of Safety

Do You Know That—

Of our total population 55% is in cities of 10,000 and under?

That of the total car dealers 71.2% are in the same small cities and rural districts?

64% of all service stations are in this same area—known as the “big small town market?”

Of the total supply stores and supply departments 62% are in cities of 10,000 and less?

And 55.1% of all automotive sales are made in this “big small town market?”

Accessory sales, 53.5%; replacements parts and service sales 56%?

These percentage figures only emphasize the importance of the BIG SMALL TOWN MARKET number of *Automobile Trade Journal*—to be published May 1.

As a vehicle for the merchandise messages of manufacturers who seek and who wish to retain favorable contact with this great market the May 1 issue of *Automobile Trade Journal* will prove mighty useful. Don't miss it!

***Paid circulation thruout the
Trade, more than 45,000***

**AUTOMOBILE
TRADE JOURNAL**
Chestnut and 56th Sts.
PHILADELPHIA

Last forms close April 20.
Not much time left. Please
send advertising copy promptly.

A Chilton Class Journal Company Publication



This Tag

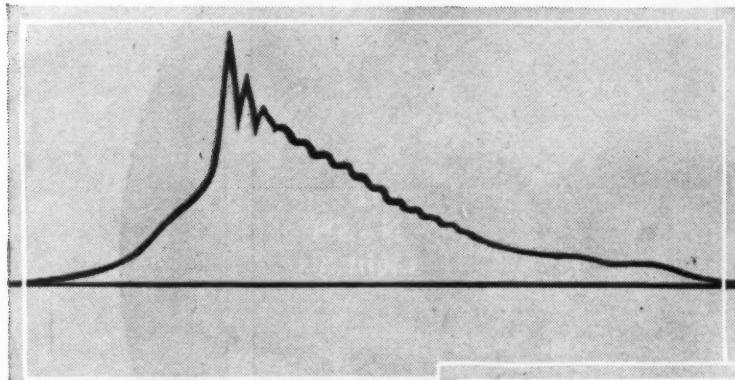
A carburetor principle basically suited to uniform precision output—materials and processes developed and refined through eighteen years—a personnel with an extra-profit incentive for turning out perfect carburetors—modern equipment and relentless inspection so that every precision standard surely sticks—and then, on every carburetor, this permanent tag—

It individualizes responsibility for smooth, economical, trouble-free carburetion on each of the million new cars that are Carter-equipped every year! It is still further evidence of the great good-will protection assured by Carter carburetors and the parent Carter institution, American Car and Foundry Company. CARTER CARBURETOR CORP., ST. LOUIS



CARBURETER

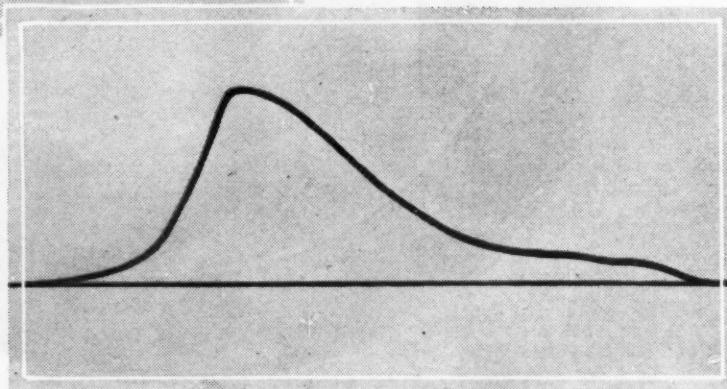
The first picture of that "knock"



This is the "knock" in automobile engines

THIS shows photographically what occurs in the engine cylinder as carbon forms, when you operate your car on regular gasoline. The increased heat and pressure created by the carbon cause the gasoline to explode too quickly, with the result that there is an accumulation of high pressure waves which strike against the cylinder walls so violently as to produce an audible metallic sound. You know that sound as the "knock"—and the bumps in the line show what the "knock" looks like.

The "knock" is the bane of the car driver. It hurts both ear and engine. It slows up engine revolutions; cuts down power and pick-up; increases vibration and engine wear and tear; and entails the trouble and expense of carbon removal.



And this is how "ETHYL" knocks it out

AND this shows photographically what goes on in the same cylinder under the same conditions when regular gasoline is treated with "ETHYL" fluid. Note the absence of "knock-bumps"; the evenness of the pressure changes. The "ETHYL" fluid has neutralized the heating qualities of the carbon deposits and by maintaining the normal combustion rate of gasoline has turned the increased pressure into increased power.

Ethyl Gasoline is the most efficient "anti-knock" fuel yet discovered. It transforms carbon from a liability into an asset. It produces more power on hills and heavy roads. Speeds up acceleration. Makes for easier handling in traffic. Reduces gear-shifting. Keeps out the "knock" with the spark fully advanced. And reduces wear and tear and maintenance costs.

THESE photographs were made possible by a special instrument invented by General Motors Research Laboratories to find out what goes on in an automobile engine's cylinder when "knocking" occurs.

That invention led to the discovery that what the average car owner has long called an "engine knock" or a "spark knock" is in reality a fuel knock. It is due to the tendency of regular gasoline to explode too quickly as carbon forms and increases temperature and compression (pressure).

Having determined the character of "knocking," General Motors developed "ETHYL" fluid, a patented chemical compound which when added in very small quantities to regular gasoline forms Ethyl Gasoline, the most effective "anti-knock" fuel yet known.

Ethyl Gasoline transforms carbon deposits from a liability into an asset. It produces more power on hills and heavy roads. It gives a faster "pick-up," reduces gear-shifting, lessens vibration and engine wear and tear; and saves the trouble and expense of carbon removal.

Ethyl Gasoline has increased the satisfaction of hundreds of thousands of car drivers. It is destined to play a still more important part in the automobile history of the future.

ETHYL Gasoline is now generally available throughout the United States and Canada through the following oil companies, licensed to mix "ETHYL" fluid with gasoline. The "ETHYL" trademark on the pump is the public's protection:

Associated Oil Company ✓ Atlantic Refining Company ✓ Beacon Oil Company ✓ Continental Oil Company ✓ Hearn Oil Company ✓ Humble Oil & Refining Company ✓ Imperial Oil Limited (Canada) ✓ Pennzoil Company ✓ Refiners Oil Company ✓ Spears & Riddle Company ✓ Spokane Oil & Refining Company ✓ Standard Oil Company (Indiana) ✓ Standard Oil Company (Kentucky) ✓ Standard Oil Company of Louisiana ✓ Standard Oil Company of Nebraska ✓ Standard Oil Company (New Jersey) ✓ Sterling Oil Company ✓ Union Oil Company of California ✓ Walburn Petroleum Company ✓ Waverly Oil Works.

ETHYL GASOLINE CORPORATION, 25 Broadway, New York



HAVE YOU YOUR COPY?

Questions regarding the character and performance of Ethyl Gasoline and its effect on engine and engine parts are answered in the Ethyl Gasoline "Primer." If you have not already received a copy, one will be sent you on request to the

ETHYL GASOLINE CORPORATION
25 Broadway, New York City



ETHYL GASOLINE

Notice— “Drive-away” dealers

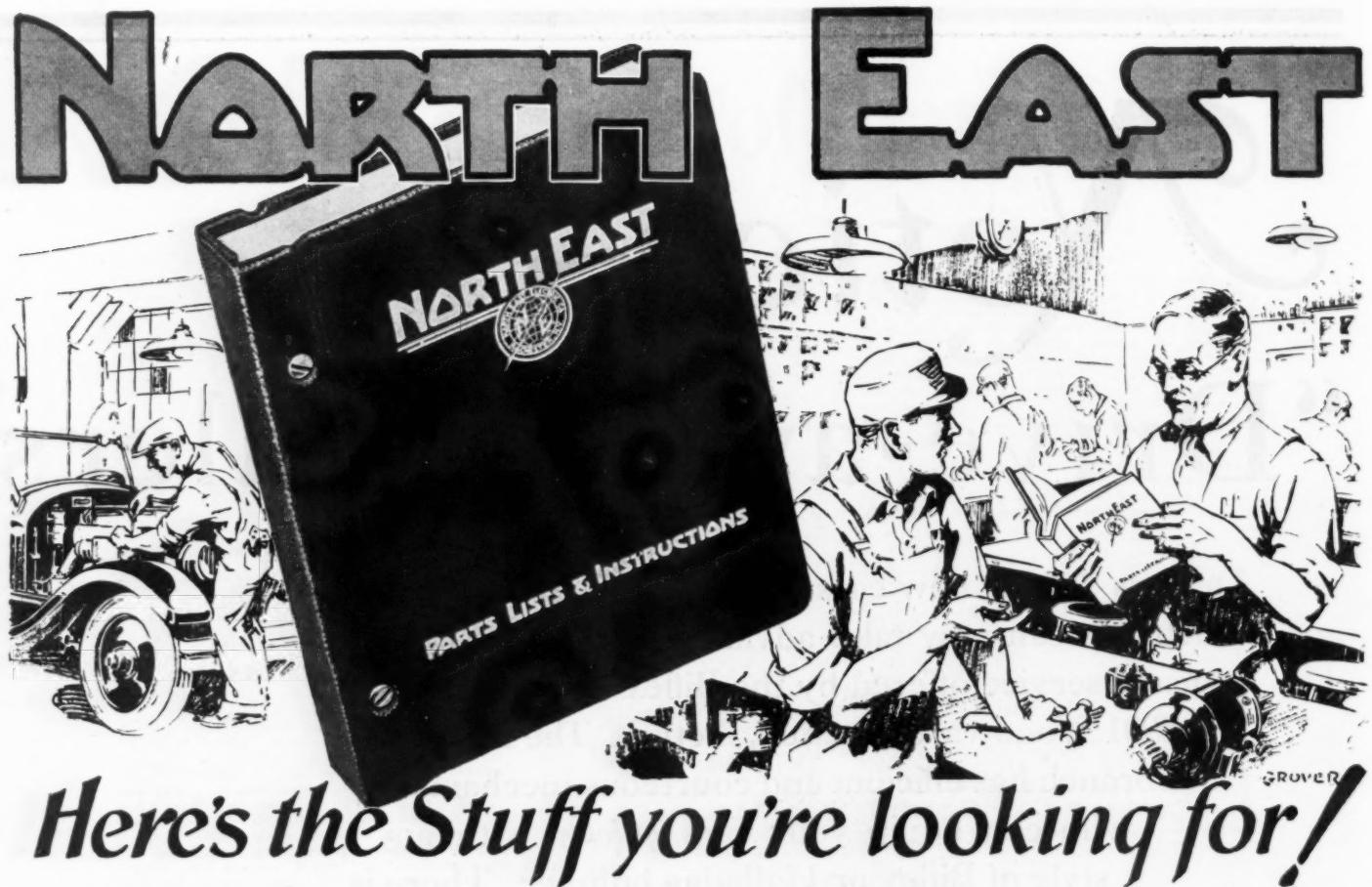
Dealers driving new cars away from Detroit factories can now take advantage of an unusual service offered by the Biflex Branch at 5901 Woodward Avenue, Detroit. The Biflex branch has efficient and courteous mechanics who can equip your cars *quickly* with any style of Biflex or Halladay bumper. There is no need now for drive-away dealers to take chances of marring and scarring cars in transit. Protect your cars to their destination!

Keep them new! Save the time of your own mechanics in installing bumpers. Give your customers the best bumper protection—play safe all around. You will be extended the same discount as allowed by local jobbers.

BIFLEX DETROIT BRANCH
5901 Woodward Avenue Corner Antonette
Telephone Northway 6410

Chicago Branch
2334 S. Michigan Avenue,
renders same Biflex Service
Tel. Calumet 0548

Biflex
Cushion Bumper



HOW often have you been up against it because you didn't understand the actual operation of the Third Brush? Or because you couldn't figure out just how the Voltage Regulator controls the Generator?

Here's the book that gives you the low-down on these—and a lot of other things you want to know in your work. The new North East Book of Service Information covers both the technical and practical sides of automotive electrical service work.

It contains detailed information on all elements of the Electrical System as well as on Horns and Speedometers. It explains each subject in simple readable language, and it has hundreds of illustrations and diagrams to make everything in it easily understood.

This book is put out in loose-leaf form, bound in substantial

covers. Provision is made for keeping it up-to-date by the issuance of frequent supplements. This up-keep service is maintained without extra cost for the first year after the purchase of the book. It is available thereafter at a nominal yearly charge ranging from \$50 to \$1.50 according to the class of supplementary sheets desired.

The standard Book of Service Information can be purchased for \$5.00. A special Edition of this Book including illustrated Parts sheets and detailed Price Lists on the principal North East applications is also available at a price of \$8.00. In addition to these two editions of the complete Book of Service Information, Individual Editions containing complete Parts and Service Information on any one of the principal North East applications are available at a price of \$2.00. All prices are net, post paid.

Just tear off the bottom of this page, write your name and address and send it with the money to North East Service Inc., Rochester, N. Y.

[Don't overlook the new AUTOMOTIVE ELECTRIC ASSOCIATION Universal Catalogue of Genuine Service Parts. It contains lists of the principal repair parts for approximately 95% of the automotive electrical equipment in service since 1920.]

NORTH EAST ELECTRIC CO.
Manufacturers of Automotive Equipment
and Electrical Appliances
Starters .. Generators .. Ignition .. Horns
Speedometers .. Fract. HP Motors
Electric Drives for Typewriters
Rochester, N. Y.

NORTH EAST
The Equipment That Lasts

NORTH EAST SERVICE INC.
Official Service and Sales Distribution
For NORTH EAST Products
Rochester .. Atlanta .. Chicago .. Detroit
Kansas City .. New York .. San Francisco
London .. Paris .. Toronto
Authorized Service Stations the world over

THE COUNTRY GENTLEMAN

April 1927

Announcing a really *better* battery.. the NEW RUBBERIB by Prest-O-Lite



Here is the secret of its longer life

The biggest factor in the life of a battery is the ruggedness and strength of the "separators" between the positive and negative plates. Therefore, a great new improvement in "separators" obviously means a great new improvement in batteries.

By triple-reinforcing separators made of candled Port Orford cedar (admittedly the best material) with strong, vulcanized rubber ribs, Prest-O-Lite now solves the battery maker's most stubborn problem.

The staunch, vulcanized rubber ribs (a Prest-O-Lite patented construction) act as effective buffers between the comparably fragile wood and the heavier plates—thus giving to the most vulnerable part of a battery the proved ability to actually *outwear the plates themselves*.

As a result of this new added life, your Prest-O-Lite Rubberib battery will be cheerfully and confidently guaranteed by the dealer who sells it to you.



Do You Own a Radio Set?

If so, give a thought to this new Prest-O-Lite Trik-A power unit, said to be the most outstanding radio development of the year. It gives you uninterrupted, clear, full power reception at a cost far below that of any other power unit on the market. Just plug into a light socket and forget it. Ask your nearest Prest-O-Lite dealer to explain its technical superiority.

The above announcement appears in the April Country Gentleman. At the same time, a two page ad comes out in The Saturday Evening Post, April 2. Important newspaper advertisements follow. This campaign starts Prest-O-Lite's greatest advance. Wise dealers will write for full particulars, especially in view of new price and profit advantages just inaugurated as a part of the Prest-O-Lite dealer plan.

TODAY a new word is born—"Rubberib"—It is the name of a great new battery by Prest-O-Lite—a *better* battery that will give you quicker, surer starts—more sustained power.

This better battery by Prest-O-Lite is built to keep up with the constantly growing excellence of automobiles.

The first Rubberib batteries were developed by Prest-O-Lite to meet a demand of the Packard Motor Car Company for a battery that would give Packard owners the greatest possible freedom from battery bother and annoyance. For nearly three years Packard cars of every type have been equipped with this better battery.

Other makers of quality cars have recently adopted this better battery as standard equipment; so there can be no doubt about its genuine superiority.

Why it is really a better battery:

—it is made of the very best of materials obtainable, by skilled specialists of long experience

—the plates are especially selected and of absolutely uniform quality

—the separators are of a new type—selected Port Orford cedar, treated by a secret Prest-O-Lite process which gives maximum porosity and durability, and *triple-reinforced with staunch vulcanized rubber ribs*. As a result, the separators actually outwear the plates themselves.

Prest-O-Lite dealers everywhere now have complete stocks; so no matter what car you are driving, your nearest Prest-O-Lite dealer can equip it with a correct size new Rubberib at once.

THE PREST-O-LITE COMPANY, Inc.
New York • INDIANAPOLIS • San Francisco
Unit of Union Carbide and Carbon Corporation

Hundreds of
Thousands
 of New Prospects Created By
The New and Finer
PONTIAC SIX
 . . . at New Low Prices!



\$775

SEDAN

| | |
|---------------------------|-------|
| Coupe | \$775 |
| Sport Roadster (4-pass.) | 775 |
| Sport Cabriolet (4-pass.) | 835 |
| Landau Sedan | 895 |
| De Luxe Landau Sedan | 975 |
| DeLuxe Panel Delivery | 770 |
| DeLuxe Screen Delivery | 760 |

*Oakland Six, \$1025 to \$1295. All prices
at factory. Easy to pay on the liberal
General Motors Time Payment Plan.*

Mail
Coupon
Today

Department C,
Oakland Motor Car Co.
Pontiac, Michigan.
Please send me, without obli-
gation, the story about the
Oakland-Pontiac Double-Profit
Franchise.

Name
Street and No.
City and State.

All during 1926, the Pontiac Six piled up record after record, amazing the industry with its spectacular production and sales. No other new make of car ever took the nation so completely by storm.

Yet this electrifying success was achieved with the original Pontiac Six. And the original Pontiac Six sold for \$825.

Now the New and Finer Pontiac Six embraces even greater beauty and even more mechanical improvements. Now it sells at New Low Prices.

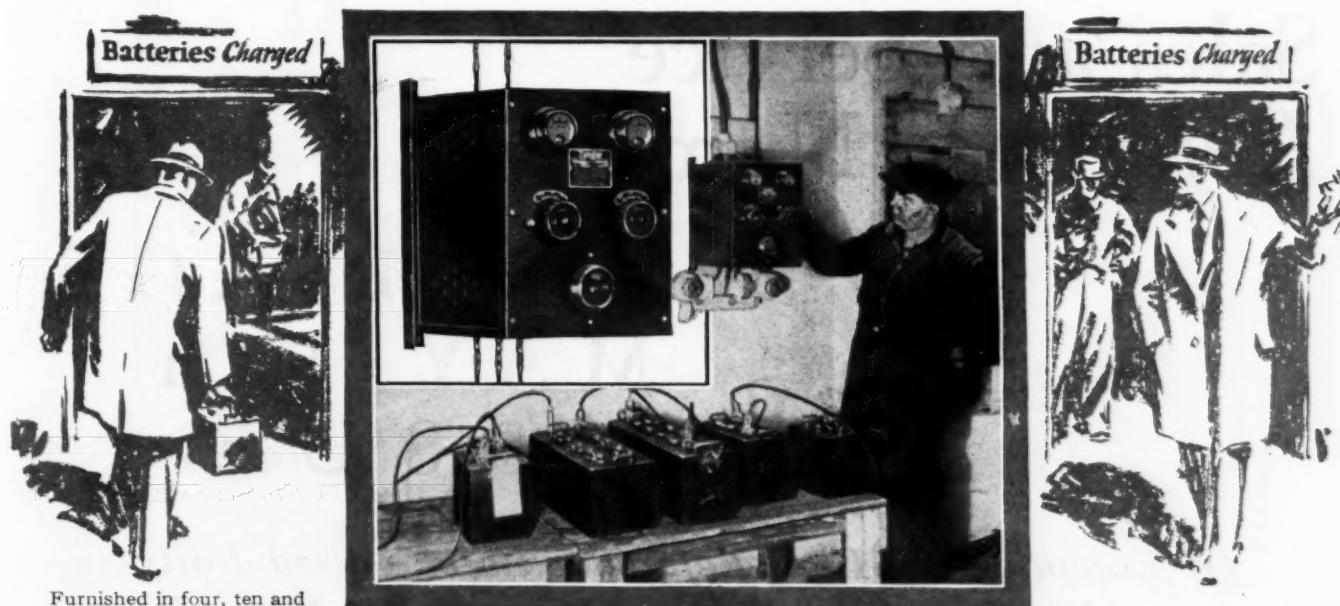
And that reduction in prices alone has increased the number of possible Pontiac Six buyers by 250,000—a figure based on the most accurate and scientifically developed data available.

What this means to holders of the Oakland-Pontiac Double-Profit Franchise is crystal clear. It means that in addition to all the people who could afford to buy a Pontiac Six at the old price—in addition to all the buyers of the Greater Oakland Six—in addition to hundreds of thousands who are attracted by the new beauty, new body types and new refinements in the Pontiac—there are now a quarter of a million more people made prospects for the Pontiac Six by its New Low Price.

If you have watched the ever-increasing value of the Double-Profit Franchise, now you must be interested to the point of action. Never before was the future brighter for Oakland-Pontiac dealers. And if you want to share that future, mail the coupon today.

OAKLAND MOTOR CAR COMPANY, PONTIAC, MICHIGAN

OAKLAND-PONTIAC
Double-Profit
Franchise



Furnished in four, ten and twenty battery sizes.

In Today—Out Tomorrow

A Twenty battery G-E Tungar will charge the average battery in eighteen hours. *In today—out tomorrow. That's SAFE charging.*

Charging with a G-E Tungar is best for the batteries—and best for the service station too. For G-E Tungars are low in first cost, low in operating cost and easy to install. *And they stand up under twenty-four-hours-a-day service year after year.* We know that they do because so many satisfied users have written in to tell us so. For economy, convenience and profit get a G-E Tungar.



Write for the booklet that shows the profit possibilities of Tungar.

Merchandise Department
General Electric Company
Bridgeport, Connecticut

Tungar—a registered trademark—is found only on the genuine. Look for it on the name plate.

GENERAL ELECTRIC

Sales and Service Reference Number

MOTOR AGE
MAY 5th
ISSUE

***Of Exceptionally High Reference Value—Used Daily
—Lives for a Year. Following Are Indications of
Editorial High Spots***

MOTOR AGE 1927 FLAT RATE MANUAL. A new kind of manual—more comprehensive—simplified—a real guide to shop profit. Contents will include: "What Flat Rate Is," "How to Install Flat Rate," "How to Sell Flat Rate," "How to Pay Mechanics Under Flat Rate," "Directory of Factory Flat Rate Systems," and a Simplified Flat Rate Price List.

REPAIR STANDARDS CHART. A diagramatic chart showing how to determine when moving parts of the automobile chassis are properly fitted, when they are serviceable and when they need replacing. Printed as an insert on heavy brown paper.

AUTOMOBILE DEALER'S PASSENGER CAR DIRECTORY. A table giving alphabetical list of all American made cars, name and address of manufacturer, type of engine, price range and other useful facts.

SALES AND SERVICE PROFIT DATA on:

| | |
|-----------------|---------------------|
| New Cars | Used Cars |
| Parts | Accessories |
| Tires | Fuel and Lubricants |
| and Maintenance | |

MONEY MAKING SALES PLANS that have worked.

ELECTRICAL EQUIPMENT ON 1927 PASSENGER CARS.

Price and weights of all passenger cars, mechanical specifications of current models, latest news of the industry, Readers' Clearing House and other features.

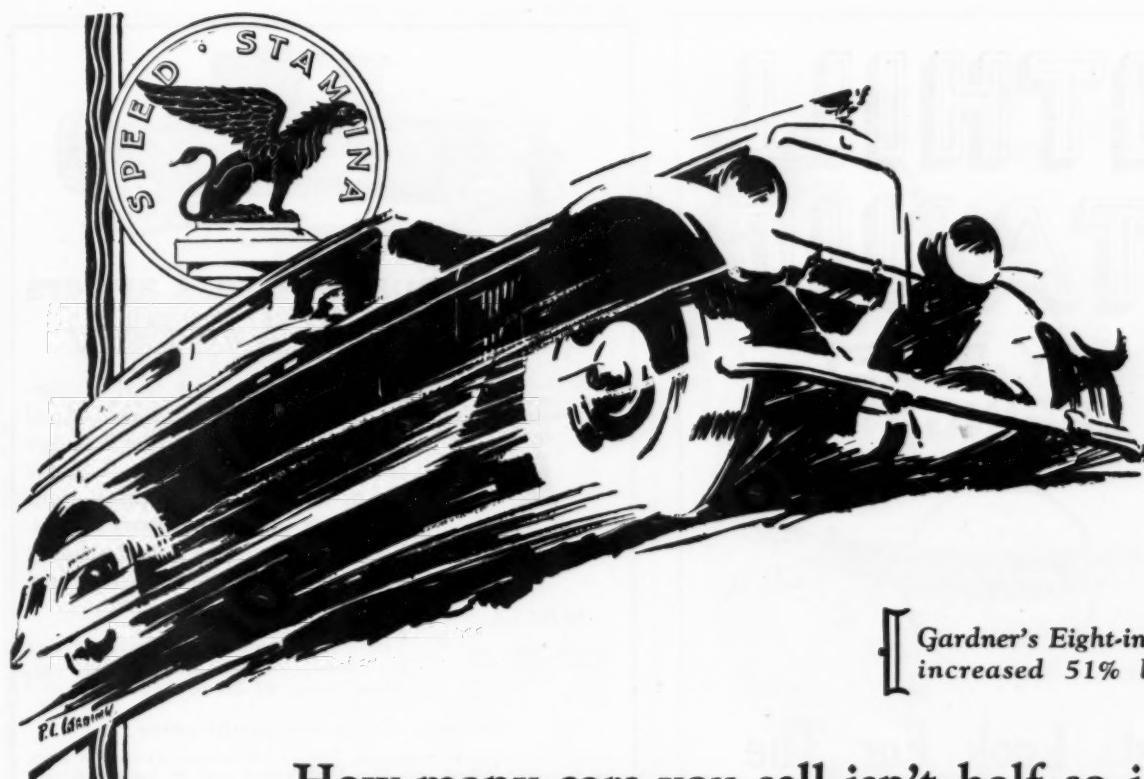
With this issue we intend to continue the progressive improvement that each succeeding Sales and Service Reference Number has shown over the preceding one.

It will be an issue of exceptional value to advertisers who want to impress the nation's consequential dealers and service station owners

For rates, etc., please address

MOTOR AGE

5 South Wabash Ave., Chicago



[Gardner's Eight-in-line sales increased 51% last year]

How many cars you sell isn't half so important as how much profit you net on every sale! Ask any Gardner dealer!

Each knows that the country is going Eight-in-line—and that Gardner's complete line of Eights-in-line ranging in price from \$1,395 to \$2,495 fits the one big opening left in the automobile market!

And each works under a factory agreement that assures him A Liberal Net Profit on Every Sale or Trade-in.

Write, wire or telephone for the whole Gardner story.

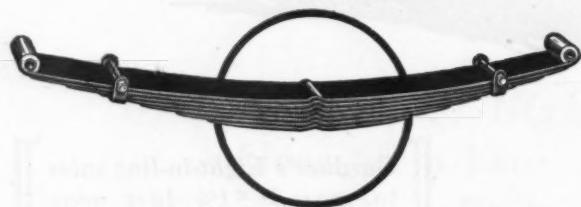
THE GARDNER MOTOR CO., INC., ST. LOUIS, U. S. A.

The New
GARDNER
EIGHT-IN-LINE

Gardner Assures You A Liberal Net Profit on Every Sale

TUTHILL TITANIC

**ALLOY STEEL
SPRINGS**



Tourists Look For The Familiar Tuthill Sign

Away from home and his neighborhood dealer, the tourist looks first for a service station and then for the signs displayed on it.



If it's a spring repair job, he recognizes the familiar Tuthill Service Station sign and knows that he can find there the hump center Titanic Springs which are guaranteed unbreakable forever at the center.

It is his assurance of good service in a strange city. And it is a source of assured income for the dealer.

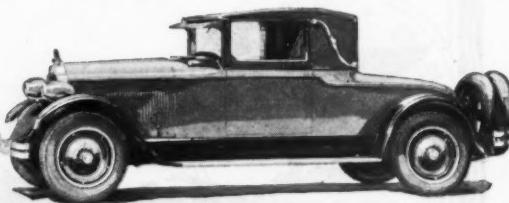
Each Tuthill dealer may order a supply of Tuthill road signs to place on the main thoroughfares and side roads leading to his place of business. Each sign bears the name and address of the dealer, painted there at the factory before shipment. These are attractively lettered on non-rustible metal in three colors with a durable paint and direct motorists to his repair shop for many kinds of service in addition to spring repairs.

Ask how they may be obtained without charge.

Tuthill Spring Co.

760 Polk St., Dept. 479, Chicago, Ill.

QUALITY SPRING MAKERS FOR NEARLY HALF A CENTURY



Second Spare Tire Carriers Give you a 5-Way Profit



DUPLEX

Second spare tire carrier locks both tires securely in place.

Duplex equipment and a second spare tire adds that final touch of beauty and insures care free motoring. Show room models so equipped help new car and accessory sales. Each Duplex sold automatically sells an extra tire, tube, rim and tire cover.

There's a second spare tire carrier for every make and model car. Retail from \$1.00 to \$10.00.

Get into this 5-way profit game.

Write for complete catalogue. Duplex carriers are carried in stock by National Wheel and Rim Distributors and by leading Accessory Jobbers everywhere.

TRIPP-SECORD & CO.

642 Beaubien Street

Detroit, Mich.

MANUFACTURERS OF AUTOMOTIVE NECESSITIES



MORE PROFITS FOR CAR DISTRIBUTORS AND DEALERS

By Selling the Mototrunk

The demand for trunks is here. You must have them!

Increase your profits by selling the Mototrunk —made of best grade auto body steel; rubber weather strips; dust and rain-proof; attractive in appearance.

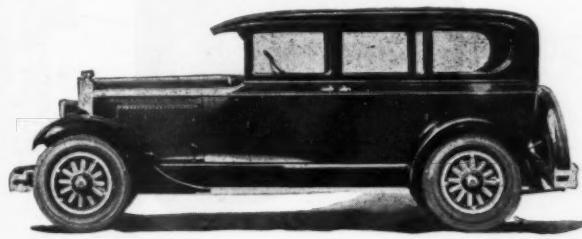
Write today for our reasonable prices.

The MoTor Trunk Co.

5930 Second Blvd. Detroit, Mich.

Sold Direct to Car Distributors and Dealers

MotoTRUNK
For All Makes of Cars



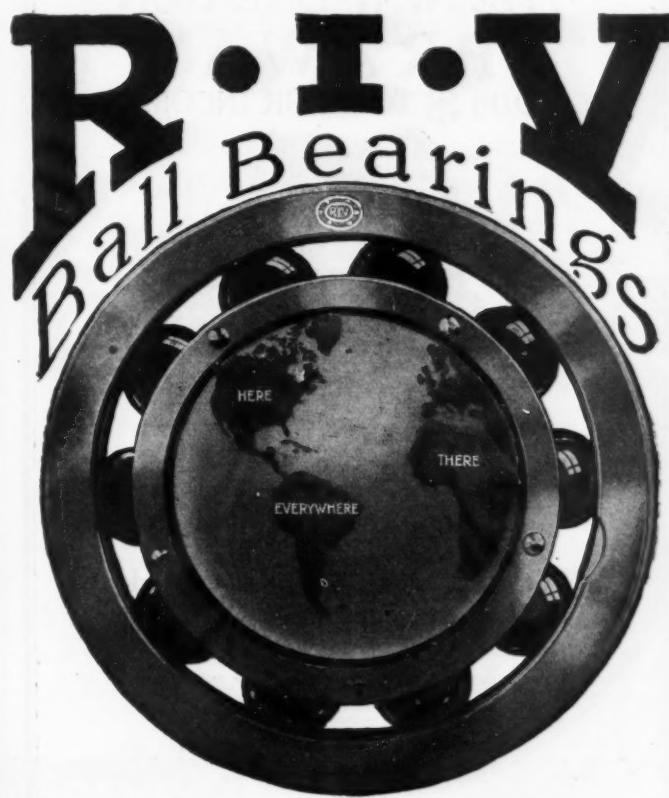
THE SCHEBLER Model "S" Carburetor is standard equipment on the new Reo *Flying Cloud*.

WHEELER-SCHEBLER CARBURETOR CO.

Established 1901

INDIANAPOLIS, U. S. A.

SCHEBLER
REG. U. S. PAT. OFF.
The World's Finest **CARBURETORS**



The Winning Proposition in Ball Bearings

Here it is, straight from the shoulder:

1. A bigger profit per sale
2. A product of exquisite quality
3. Lists of the best buyers
4. The profitable outlets for ball bearings
5. Sound and workable sales suggestions
6. A *Positive Guarantee* against loss.

This proposition is available for automotive jobbers and distributors of replacement parts who do business and progress. Here's the means to do both.

A request on your letterhead will bring the details.



Fisk Building
57th Street and Broadway, New York City
Branches: Boston, Montreal, Detroit, San Francisco

Distributors Everywhere

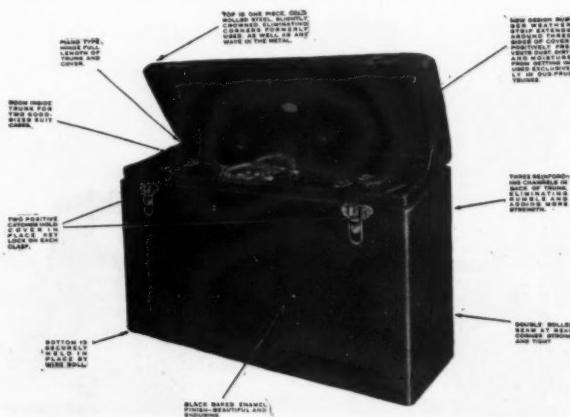
**THE NEW ONE-GUN
SPRAWAY
ADDS \$ TO YOUR INCOME**



**Put This Little Dandy At Work
Reaping Profits For You!**

Made for long life with Low Upkeep Cost. Few repairs needed. Straight line plungers. Remove only 2 screws to "get at" Plunger and Packing. Packing adjusted by one nut while operating. Threadless valve cages and seats. Loosen only one screw to remove valve, case and seat. Roller Bearings throughout—an exclusive feature. Sturdy Scotch Yoke Drive—No connecting rods or eccentrics. New Gun washes faster and better—quick adjustment. None of those troublesome cup washers or buckets to tinker with. These exclusive features and many more embodied in a real High Pressure Auto Washer that takes only 23" x 21" of floor space, and only 30" high. Completely equipped at a popular price. Descriptive matter and prices on request.

"FRIEND" MFG. COMPANY
Gasport, N. Y.



**SPECIAL 1927 HUDSON-ESSEX
DUS-PRUF TRUNKS
DUKO OR BLACK ENAMEL**

The new Hudson-Essex line is here and selling fast. Dus-Pruf trunks will sell, too!

This is the best season of the year for you—Cash in on it. Increase your profits by selling these fast-moving trunks.

Write for Special Dealer Proposition

Dus-Pruf Metal Trunk Co.
414 W. Jefferson Ave., Detroit, Mich.

Other models for all makes of cars

There's always something new just at hand for the regular reader of

MOTOR AGE

SIMPLEX
Piston Rings

Supersede all other methods of rebuilding motors without resizing cylinders and pistons—

No Oil Pumping, No Piston Slap
No Compression Loss

10,000 Mile Guarantee
backed up by Simplex Distributor with stock in your community

Send for details of this short cut scientific method of reconditioning ALL cylinders, no matter how worn, tapered, out of round or heat distorted.

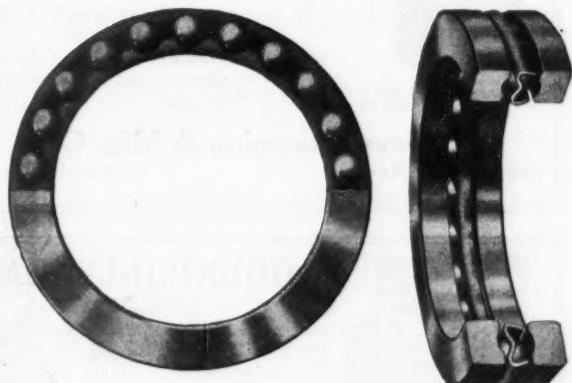
THE SIMPLEX PISTON RING CO.
of America, Inc.
1971 East 66th St., Cleveland, Ohio

**SAFEGUARDS
AGAINST
THIEVES**

**POWERSTEEL
AUTOWLOCK**

"The Right Bearing

for Every Car"



Thrust Bearing



For the Clutch Throw-out This B. C. A. Bearing

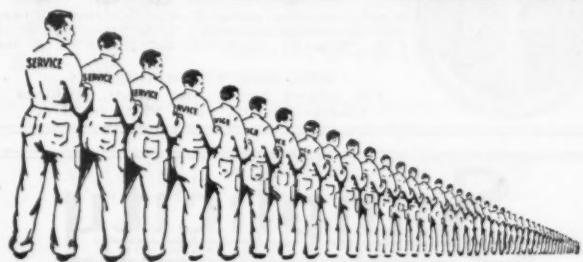
B. C. A. Thrust Bearings are the first choice of automotive engineers for the clutch throw-out assembly. Freedom from noise and long life are the reasons.

Years of research and experimentation have made this company "Ball Bearings Headquarters".

Detroit, Michigan, Office
1012 Ford Bldg.

THE BEARINGS COMPANY OF AMERICA
LANCASTER, PA.

UNIFORM!



—With Spic and Span Protexalls

Your human trade marks! Neat, and all wearing the same uniform with your trade mark lettered across the back. That's good advertising every day in the year and the cost is very small.

Protexalls are very inexpensive, yet they're made to wear like iron. Protexalls are stocked in Khaki, Stripes and other fabrics particularly suitable for service station work.

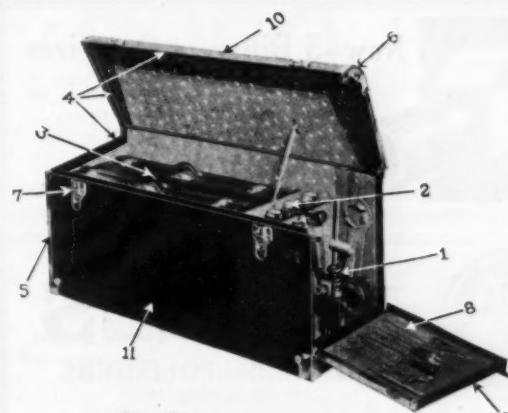
Your Name on Each Suit

Whether you order one suit or a thousand you can have your firm name or trade mark lettered across the back. Protexalls are also furnished plain.



PROTEXALL COMPANY
100 N. Main St., Abingdon, Ill.
Southern Branch
33 E. Mitchell St., Atlanta, Ga.

ONE PIECE SUITS



12 Features

The Experienced Motorist Buys

1. Tool Compartment. Exclusive. Patented.
2. Tube, Chain and Thermos Compartment.
3. Luggage Compartment. Conveniently carries any outfit.
4. Patentable Sealed Joint. Dust and water-tight. Prevents Warping.
5. Double Steel Angles. Increase strength and rigidity.
6. Heavy Nickelated Brass Corners. Exclusive design. Beautiful and enduring.
7. Heavy Nickelated Brass Self-Tightening Locks. Prevent rattles.
8. Genuine Leather Sockets. A place for every tool.
9. Full End Opening for convenience. Forms suitable work-bench.
10. Sturdy One-Piece Roll Top.
11. All airplane Spruce 3-Ply Veneer Body. No rust, rumble or rattle.
12. Genuine Art Leather—Extra Quality. Special bright black or colored Duco finish. Durable and easily cleaned.

Bigler Built IS Better Built
BIGLER MFG. COMPANY
High Street
CHIPPEWA FALLS WISCONSIN

"We Are Satisfied—



100%

That's what Lail Bros., of Lexington, Ky., have to say about the Lange

AUTO GLASS EDGER

they are using every day. Shops throughout the country, wherever a Lange is installed, report the same. New and valuable profits start with Lange installation.

HENRY G. LANGE
MACHINE WORKS
166 N. May St.,
Chicago

KEYSTONE
Gear-Shift
EXTENSION LEVER

\$1.00
Lever
Only

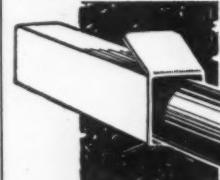
Ball and
Lever
Lock

Lever
Only
\$1.00
Ball Only
\$2.00

KEYSTONE GEAR SHIFT
Extension Levers and Genuine Onyx Balls are made in sizes for all cars. Balls are of beautifully colored Genuine Onyx, all with selected markings. Levers are heavily nickel plated metal, with set-screw lock. Sold either as a unit or individual part.

THE NORLIPP CO.
568 West Congress Street
CHICAGO, ILL.

KEYSTONE
SELF-LOCKING
RADIATOR CAPS



Now--5 Different Oversizes

to every standard size and type of Piston Pin—in stock, waiting for your telegraphic order.

THOMPSON
PISTON PINS

Defiance Ohio



Portable Electric
DRILLS
GRINDERS—POLISHERS
Ask for Catalog 105

The United States Electric Tool Co. Cincinnati, Ohio, U. S. A.
Oldest Builders of Electric Drills and Grinders in the World

free
write for
your copy

The Book
"AIR PROFITS"
Shows how to get more work out of an air compressor. How to use compressed air for many pay jobs.

BRUNNER MFG. CO.
UTICA NEW YORK
BRUNNER
AIR COMPRESSORS



PROTEX-A-MOTOR
GASOLINE PURIFIER

Protects the Entire Gasoline System
It puts gas through a triple separation from its impurities by straining—by filtration—and in addition by gravity.
Installed between gas tank and vacuum. Set on self-cleaning 60° angle. Absolutely LEAK-PROOF!
Investigate!

PROTEX-A-MOTOR MANUFACTURING CO.
Pittston, Penna.

New DOVER FLEXO SERVICE CAN

Saves Your Time

The New Dover Flexo Service can speeds up sales, and makes your time productive.

Customers like the service it gives because it is clean as well as quick and convenient for you.

Flexible pouring tube stores away inside can when not in use.



In 2 capacities: 2 and 5-gal. Prices \$3.50 and \$5.

Dover Stamping & Mfg. Co.
385 Putman Ave. Cambridge, A. Mass.

GOODRICH-LENHART
CABLE KIT



Goodrich-Lenhart Mfg. Co.

Hamburg, Penna.

EATON SPRINGS
FOR REPLACEMENT

STANDARD EQUIPMENT ON AMERICA'S LEADING CARS
AND TRUCKS

THE EATON BUMPER & SPRING SERVICE CO., Cleveland, Ohio

The K-S GASOLINE
Telegage 



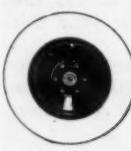
A gasoline gauge on the Dash. Note our half-page advertisement in this week's issue Saturday Evening Post. Write for description and position to the trade.

KING-SEELEY CORPORATION
298 Second Street, Ann Arbor, Michigan
Chicago Branch, 2450 Michigan Blvd.

Simplicity
REG. U. S. PAT. OFF.

REBORER AND GRINDER
A big money-maker in any automobile repair shop or garage. Ask for free demonstration in your own shop.

SIMPPLICITY MANUFACTURING COMPANY
Port Washington Wisconsin

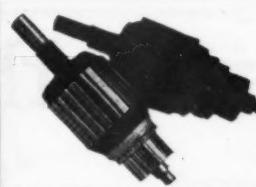


Every year more motorists
are saying ...

"Goodbye, buggy wheels" **BUDD**
WHEEL COMPANY
Philadelphia • Detroit

WEL-EVER
"OIL CONTROL" PISTON RINGS

The Motor Necessity That Has Made Good
Backed by Seven Years' Satisfactory Service
THE WEL-EVER PISTON RING CO., TOLEDO, OHIO
Sold most everywhere. If your dealer cannot supply you write us.



FREDERICKS Rewinds

New low prices: Rewinding or exchanging any two unit type of automobile generator or starter armature, \$2.50. Any type of Ford armature \$1.50. Special prices on Ford armatures in quantities.

H. M. FREDERICKS CO., Lock Haven, Pa.



The tire with the Gum Weld Cushion has become the most favorably talked about heavy-duty tire in America.

So it pays to be an INDIA dealer.

INDIA TIRE & RUBBER CO., AKRON, OHIO



The Burgan Cotter Pin Extractor

Works Like Magic

It goes in anywhere, grips the cotter pin—snaps it out in a jiffy—holds it until released. You don't have to pull or twist. Just squeeze the handles. It's a great tool!

Write for prices and details

THE BURGAN CORPORATION

Shenandoah

Iowa



Here Is Something to Sell!

A piston ring, on the principle of a packing ring, that gives remarkable results in service, is used in thousands by automobile factory branches for replacement—and pays a profit worth while. WRITE FOR DETAILS.

THE CORK-SEALED PISTON RING CORP.

2332 Michigan Avenue, Chicago

Factory: Denver, Colo.

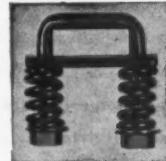
Canadian Distributors: Purser, Bell & Co., Ltd.

Toronto, Canada

WE MAKE RADIATOR CORE MACHINERY

Write for Catalog & Prices

RADIATOR ENGINEERING CO.
FACTORIES BLDG. TOLEDO, OHIO



Orrville Spring Governors

Make Smooth-Running Profits

Among the foremost popular sellers for easier riding. Simple in operation and easy to install. Check the rebound and control the springs against "galloping". Ask for illustrated literature and discounts worth while.

ORRVILLE SPRING GOVERNOR CO., INC.
500 Brant Bldg. Canton, Ohio

WEIDENHOFF Shop Equipment for Battery and Electrical Service

4358 Roosevelt Road, Chicago, Ill.

Two Hones in One HALLOHONE \$35. Solid Pressure — Spring Pressure

CLASSIFIED ADVERTISING

PATENTS & PAT. ATTORNEYS

C. L. PARKER

Ex-Examiner U. S. Patent Office
Attorney-at-Law and Solicitor of Patents
McGill Building, Washington, D. C.
Patent, Trade Mark and Copyright Law

To locate business opportunities
To sell, rent, exchange or buy
To find men or employment

The Classified Department
will help you

CLASSIFIED ADVERTISING RATES

Ten cents a word is the rate for all undisplayed advertisements set solid, regular want ad style; minimum charge \$1 an insertion. All capitals, 12c a word; all capitals, leaded, 15c a word. Payable in advance.

RADIATOR CAPS ORNAMENTS

Faith

Confidence in a product that has been produced with scrupulous attention to detail is born only of experience. Our clients know they receive only the finest in material and artistry.

FAITH MFG. CO., Inc. 2533-39 N. Ashland Ave., Chicago, Ill.

U. S. REPLACEMENT GENERATOR FIELD COILS TO FIT MORE THAN 100 CAR APPLICATIONS. LIBERAL DISCOUNT TO DEALERS.

LARGEST STOCK OF EXCHANGE ARMATURES IN THE WORLD.
Write for Free Copy Automobile Armature Data on Popular Late Models.

U. S. ARMATURE SERVICE 11-17 So. DesPlaines St., Chicago, Ill.

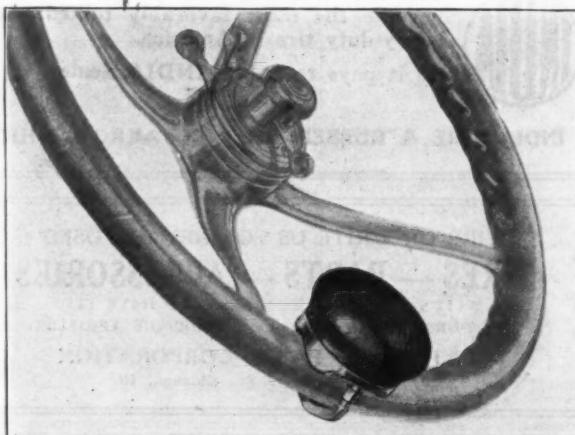


Let us send our profit-boosting plan. It's free.

TASCO Gas Gauge for FORD CHEVROLET OVERLAND and STAR

Sells Quick at \$1.25 Retail
Types "K" and "J" for 1928
Chevrolets and all
Stars Sell at \$1.50

THE AKRON-SELL CO.
Akron, Ohio



Whipple STEER-O-NOB

a handle for steering wheels



FOR DRIVING IN TRAFFIC,
TURNING AROUND,
PARKING, BACKING, ETC.

Spin the steering wheel around with ONE HAND—Have the other free for changing gears.

The Whipple STEER-O-NOB clamps on the rim of the steering wheel and stays put—cannot work loose. Heavy felt packing prevents marring the wheel. Absolutely rattleproof.

The Whipple STEER-O-NOB is of the highest quality throughout. Solid Black Walnut hand polished. 'Nob, heavily nickelized, hand buffed base and clamp.

Retail price \$5.00

Counter Demonstrator

We supply, without cost to dealers, an attractive sturdy demonstrator, in colors. The steering wheel turns and a real STEER-O-NOB is mounted on its rim. With this you can quickly show the prospect how the STEER-O-NOB is used. Free with a dozen STEER-O-NOBS.



SPECIAL INTRODUCTORY OFFER

Complete demonstrating outfit with a supply of attractive folders included with your first order for one half dozen STEER-O-NOBS.

FROM YOUR JOBBER

If he cannot supply you write to us, giving his name and we will see that your order is filled immediately.

Whipple Manufacturing Co.

33 West 60th St.

New York, N. Y.

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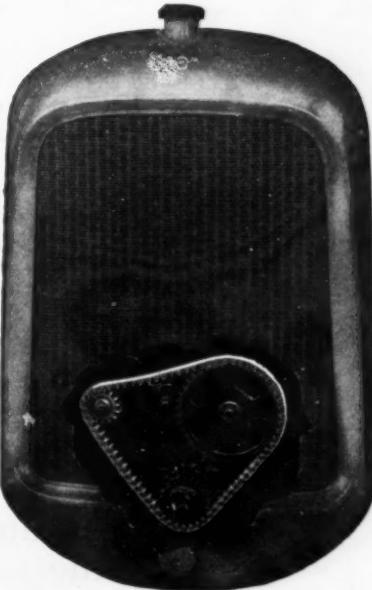
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UNSEEN BUT VITAL

To the majority of car owners the TIMING CHAIN is one of the hidden parts of the motor mentioned by the car salesman and then forgotten until it must be replaced.



Few drivers realize that every mile traveled, every revolution of the wheels, in fact, is controlled by the TIMING CHAIN, which is constantly "on the job" while the motor is running, and that this UNSEEN BUT VITAL part is subject to normal wear. Some makes of chain wear faster than others and in a comparatively short time cause motor trouble by jumping the sprocket teeth.

When it is necessary to replace a TIMING CHAIN for one of your customers don't give him merely a new TIMING CHAIN but be sure and give him a "WHITNEY," which has long life and never been known to jump the sprocket teeth. It will save him money and he will be so well pleased with the results that he is sure to come to you for his next repair job.

"WHITNEY"

SILENT HIGH MILEAGE CHAINS

Ask our distributor in any city, or mail coupon for specification list.

The Whitney Mfg. Co.
Hartford, Conn.

I want that book on chain specifications

Name.....

Address.....

Service Station Fleet Owner Parts Jobber

A business that will increase each year

One outstanding development in the automotive industry is the rapidly expanding market for Knight-engined cars.

The Knight sleeve-valve engine—recognized by both European and American automotive engineers as the superior type of motor is setting a higher standard of motive power for American made automobiles.

Public acceptance of this type of motor and appreciation of its remarkable performance record is assurance of a continued growth in volume and profit for Knight-engined car dealers.

The Falcon-Knight is the only Knight-engined car in the lower price range.

FALCON MOTORS CORPORATION, DETROIT

Falcon-Knight



MANLEY

High-Draulic Jack \$48

CAPACITY 2½ TONS

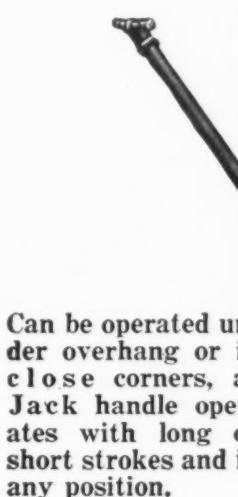
Minimum Height only 5¼ Inches Travel of Post 10 Inches

From dead flat to full clearance off floor with any balloon tire.

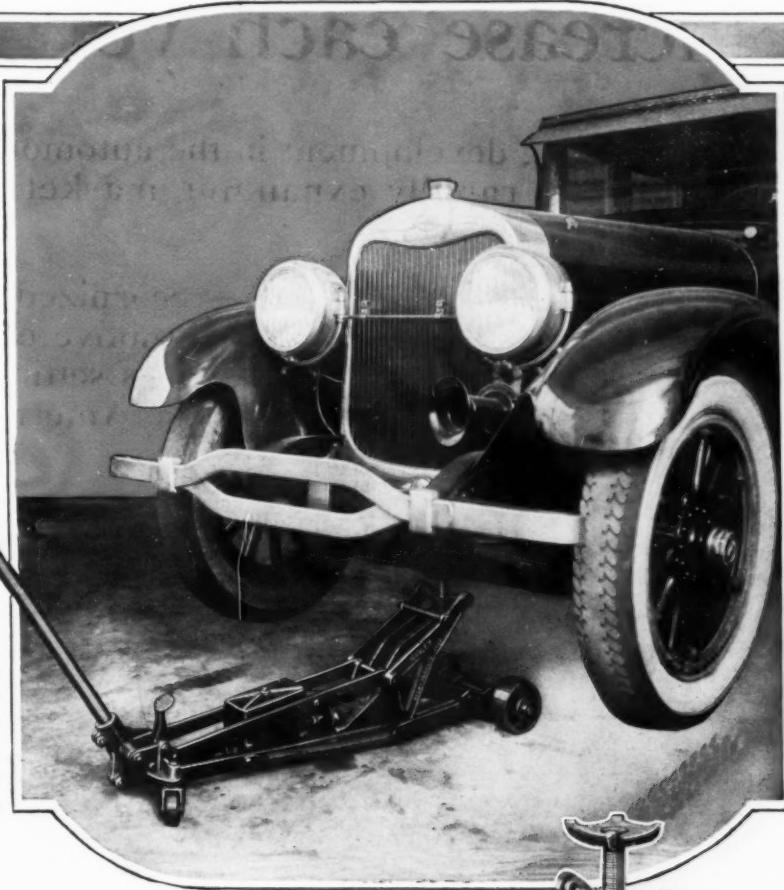
Hydraulic principle

Min. height 5¼ In.
Travel.....10 In.

Bridge construction



Can be operated under overhang or in close corners, as Jack handle operates with long or short strokes and in any position.



2½ tons capacity

Safety valve makes it impossible to overload

Easy lift—
Maximum load may
be obtained with
one hand

Quick lowering—
merely press foot
pedal and Jack low-
ers—like a barber's
chair.



*This is a
Manley year*



Your Jobber Can Supply You.

For new 1926 Catalog describing the entire Manley line write to

MANLEY MFG. CO.,

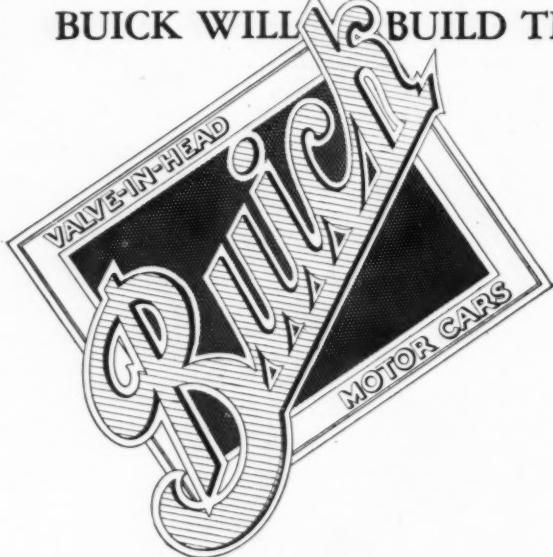
YORK, PA.

[*Buick*]

The number of Buick owners is constantly increasing, and the enthusiasm of these owners for their cars is one of Buick's greatest sales helps. Every year Buicks are easier to sell. And every year the Buick franchise grows in value.

*Those who desire the Buick Franchise
should have their names on file. . .*

WHEN BETTER AUTOMOBILES ARE BUILT
BUICK WILL BUILD THEM



[*Buick*]
